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TO:	FROM:
Christine Saoud Location: rem/4E81/4C70 Art Unit: 1647 Friday, May 12, 2006 Case Serial Number: 10/714067	Kristine Hensle Location: Biotech-Chem Library REM-1B69 Phone: (571) 272-4161 Kristine. Hensle@uspto.gov

Search Notes

Examiner Saoud,

See attached results.

If you have any questions about this search feel free to contact me at any time.

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Kristine Hensle
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From: Saoud, Christine
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Subject: sequence search request - 10/714067

Please search SEQ ID NO:24 in the patent and commercial databases. No interference/pending search at this time.

This should be a protein search.

Thanks,

Christine Saoud
AU 1647
REM 04 E81
571-272-0891

4C70

****
Searcher:_____
Searcher Phone:_____
Date Searcher Picked up:_____
Date completed:_____
Searcher Prep Time:_____
Online Time:_____

****
Type of Search
NA#_____ AA#:_____
S/L:_____ Oligomer:_____
Encode/Transl:_____
Structure #:_____Text:____
Inventor:_____ Litigation:___

****
Vendors and cost where applicable
STN:_____
DIALOG:_____
QUESTEL/ORBIT:_____
LEXIS/NEXIS:_____
SEQUENCE SYSTEM:_____
WWW/Internet:_____
Other (Specify):_____

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OM protein - protein search, using sw model

Run on: May 11, 2006, 11:54:08 ; Search time 189 Seconds
(without alignments)
311.517 Million cell updates/sec

Title: US-10-714-067-24
Perfect score: 680
Sequence: 1 MFPTIPLSRLFDNAMLRAHR.....LKDLEEGIQTLMGRLEDGSP 134

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 2443163 seqs, 439378781 residues

Total number of hits satisfying chosen parameters: 2443163

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A_Geneseq_21:*
1: geneseqp1980s:*
2: geneseqp1990s:*
3: geneseqp2000s:*
4: geneseqp2001s:*
5: geneseqp2002s:*
6: geneseqp2003as:*
7: geneseqp2003bs:*
8: geneseqp2004s:*
9: geneseqp2005s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	680	100.0	134	2	AAW92265	Aaw92265 Human ant
2	675	99.3	140	1	AAP91041	Aap91041 Human gro
3	675	99.3	188	8	ADI47330	Adi47330 Plasmid p
4	675	99.3	192	1	AAP90129	Aap90129 Human gro
5	675	99.3	192	2	AAW92264	Aaw92264 Human ant
6	675	99.3	192	8	ADI47320	Adi47320 Plasmid p
7	675	99.3	192	8	ADI47390	Adi47390 Plasmid p
8	675	99.3	192	8	ADI47398	Adi47398 Nmer ampl
9	675	99.3	192	8	ADV25451	Adv25451 Human gro
10	675	99.3	192	8	ADV25452	Adv25452 Human gro
11	675	99.3	192	8	ADV91669	Adv91669 HUman gro
12	675	99.3	192	8	ADW69738	Adw69738 Human gro
13	675	99.3	192	9	AEB96379	Aeb96379 Human gro
14	675	99.3	192	9	AEB96178	Aeb96178 Human gro
15	675	99.3	192	9	AEB96376	Aeb96376 Human gro
16	675	99.3	192	9	AEB96180	Aeb96180 Human gro
17	675	99.3	192	9	AEB96382	Aeb96382 Human gro
18	675	99.3	192	9	AEB96380	Aeb96380 Human gro
19	675	99.3	193	8	ADI47354	Adi47354 Plasmid p
20	675	99.3	206	8	ADI47384	Adi47384 Plasmid p
21	675	99.3	261	1	AAP91299	Aap91299 Human ner
22	675	99.3	262	2	AAR11740	Aar11740 Human gro
23	675	99.3	391	8	ADI47363	Adi47363 Plasmid p
24	675	99.3	574	8	ADI47344	Adi47344 Plasmid p
25	675	99.3	576	8	ADI47351	Adi47351 Plasmid p
26	675	99.3	589	8	ADI47365	Adi47365 N+1mer am
27	675	99.3	786	8	ADI47367	Adi47367 Nmer ampl
28	675	99.3	810	8	ADI47388	Adi47388 Amplifica
29	672	98.8	144	2	AAR05313	Aar05313 Segment o
30	672	98.8	262	1	AAP61033	Aap61033 Human bet
31	672	98.8	794	7	ADF16507	Adf16507 Human alb
32	672	98.8	800	7	ADF16216	Adf16216 Human alb
33	670	98.5	138	1	AAP81226	Aap81226 Sequence
34	670	98.5	191	2	AAY15809	Aay15809 Primary a
35	670	98.5	191	2	AAY04397	Aay04397 Mutant hu
36	670	98.5	191	2	AAY04396	Aay04396 Natural h
37	670	98.5	191	3	AAY78425	Aay78425 Human gro
38	670	98.5	191	4	AAO17485	Aao17485 Human gro
39	670	98.5	191	4	AAO17486	Aao17486 Human gro
40	670	98.5	191	5	ABG31865	Abg31865 Mature hu
41	670	98.5	191	5	ABG31863	Abg31863 Mature hu
42	670	98.5	191	5	ABG31866	Abg31866 Mature hu
43	670	98.5	191	5	ABG31857	Abg31857 Mature hu
44	670	98.5	191	5	ABG31862	Abg31862 Mature hu
45	670	98.5	191	5	ABG94932	Abg94932 Human gro

ALIGNMENTS

RESULT 1
AAW92265
ID AAW92265 standard; protein; 134 AA.
XX
AC AAW92265;
XX
DT 08-JUN-1999 (first entry)
XX
DE Human anti-angiogenic peptide 16K hGH Met-1Pro133.
XX
KW Human; anti-angiogenic; prolactin; placental lactogen; hPL; angiogenesis;
KW growth hormone; hGH; hGH-V; capillary endothelial cell proliferation;
KW placental vascularisation; pregnancy; treatment; angiogenic disease;
KW tumour; inhibitor; malignant; angiofibroma; arteriovenous malformation;
KW arthritis; atherosclerotic plaques; corneal graft neovascularisation;
KW wound healing; proliferative retinopathy; macular degeneration; trachoma;
KW granulation; glaucoma; ocular; uveitis; fracture; Osler-Weber syndrome;
KW psoriasis; fibroplasia; scleroderma; Kaposi's sarcoma; vascular adhesion;
KW ulcer; leukaemia; reproductive disorder; contraceptive agent;
KW gene therapy; pre-eclampsia; intrauterine growth retardation;
KW placental dysfunction.
XX
OS Homo sapiens.
XX
PN WO9851323-A1.
XX
PD 19-NOV-1998.
XX
PF 12-MAY-1998; 98WO-US009691.
XX
PR 13-MAY-1997; 97US-0046394P.
XX
PA (REGC) UNIV CALIFORNIA.
XX
PI Weiner RI, Martial JA, Struman I, Taylor R;
XX
DR WPI; 1999-045192/04.
DR N-PSDB; AAX01707.
XX
PT New anti-angiogenic peptides - comprise N-terminal fragments of human
PT placental lactogen, human growth hormone, growth hormone variant or human
PT prolactin.
XX
PS Claim 4; Page 49-50; 87pp; English.
XX
CC This invention describes novel human anti-angiogenic peptides derived
CC from 10 to 150 consecutive amino acids selected from the N-terminal end

CC of human placental lactogen (hPL), human growth hormone (hGH), growth
CC hormone variant (hGH-V), or human prolactin. Such peptides (i) inhibit
CC capillary endothelial cell proliferation and organisation (ii) inhibit
CC angiogenesis in chick chorioallantoic membrane and (iii) binds to at
CC least one specific receptor which does not bind an intact full length
CC hGH, hPL, prolactin or hGH-V. The invention also describes a method for
CC diagnosing a probable abnormality of placental vascularisation during
CC pregnancy. The peptides can be used for treating an angiogenic disease in
CC a subject, for inhibiting tumour formation or growth in a patient or for
CC modulating vascularisation of a patient's placenta. In particular, the
CC peptides can be used for preventing or treating e.g. malignant tumours,
CC angiofibroma, arteriovenous malformation, arthritic such as rheumatoid
CC arthritis, atherosclerotic plaques, corneal graft neovascularisation,
CC delayed wound healing, proliferative retinopathy such as diabetic
CC retinopathy, macular degeneration, granulations such as those occurring
CC in haemophilic joints, inappropriate vascularisation in wound healing
CC such as hypertrophic scars or keloid scars, neovascular glaucoma, ocular
CC tumour, uveitis, non-union fractures, Osler-Weber syndrome, psoriasis,
CC pyogenic glaucoma, retrolental fibroplasia, scleroderma, solid tumours,
CC Kaposi's sarcoma, trachoma, vascular adhesions, chronic varicose ulcers,
CC leukaemia, and reproductive disorders such as follicular and luteal cysts
CC and choriocarcinoma. They can also be used as contraceptive agents. DNA
CC encoding the peptides can be used in gene therapy. The measurement of
CC abnormal levels of N-terminal fragments of hGH, hGH-V, prolactin or hPL
CC can be used in assays for impairment of vascular development associated
CC with pre-eclampsia, intrauterine growth retardation, and placental
CC dysfunction
XX
SQ Sequence 134 AA;

Query Match 100.0%; Score 680; DB 2; Length 134;
Best Local Similarity 100.0%; Pred. No. 1.7e-58;
Matches 134; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIP 60
Db 1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIP 60

Qy 61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120
Db 61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120

Qy 121 GIQTLMGRLEDGSP 134
Db 121 GIQTLMGRLEDGSP 134

RESULT 2
AAP91041
ID AAP91041 standard; protein; 140 AA.
XX
AC AAP91041;
XX
DT 24-OCT-2003 (revised)
DT 14-DEC-1989 (first entry)
XX
DE Human growth hormone segment.
XX
KW Human growth hormone; fusion protein; thrombin; geriatric dementia;
KW nervous disorders; human nerve factor.
XX
OS Homo sapiens; (human).
XX
PN EP329175-A.
XX
PD 23-AUG-1989.
XX
PF 17-FEB-1989; 89EP-00102795.
XX
PR 19-FEB-1988; 88JP-00035042.
XX
PA (TOYJ) TOSOH CORP.
XX
PI Ohtsuka E;
XX
DR WPI; 1989-243092/34.
XX
PT New human nerve growth factor gene encoding fusion protein - having
PT cleavage site for thrombin, useful for treating geriatric dementia, etc.
XX
PS Disclosure; Page 21; 38pp; English.
XX
CC Human growth hormone segment, used at the N-terminal of a fusion protein,
CC which contains a thrombin recognition site, and human beta nerve growth
CC factor (beta-NGF) at the C-terminal. Beta-NGF can be used to control
CC geriatric dementia and other nervous disorders, and can be released from
CC the fusion protein by incubation with thrombin (see AAN90577-8, AAP91034,
CC AAP91299). (Updated on 24-OCT-2003 to standardise OS field)
XX
SQ Sequence 140 AA;

Query Match 99.3%; Score 675; DB 1; Length 140;
Best Local Similarity 99.3%; Pred. No. 5.6e-58;
Matches 133; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIP 60
Db 1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIP 60

Qy 61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120
Db 61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120

Qy 121 GIQTLMGRLEDGSP 134
Db 121 GIQTLMGRLEDGSP 134

RESULT 3
ADI47330
ID ADI47330 standard; protein; 188 AA.
XX
AC ADI47330;
XX
DT 22-APR-2004 (first entry)
XX
DE Plasmid p0A11A1 amino acid sequence SEQ ID NO:18.
XX
KW multimer assembly; DNA sequence; amplification cassette;
KW monomer sequence; restriction pair member; diagnostic protein;
KW therapeutic protein.
XX
OS Synthetic.
XX
PN WO2004007687-A2.
XX
PD 22-JAN-2004.
XX
PF 16-JUL-2003; 2003WO-US022216.
XX
PR 16-JUL-2002; 2002US-0396466P.
XX
PA (BUSS/) BUSSELL S.
XX
PI Bussell S;
XX
DR WPI; 2004-122926/12.
DR N-PSDB; ADI47329.
XX
PT Multimer assembly of DNA sequences comprising an amplification cassette
PT having monomer sequences and 5' restriction pair member (RPM) at its 5'
PT terminus and 3' RPM at its 3' terminus.
XX
PS Example 2; SEQ ID NO 18; 163pp; English.
XX
CC The present invention describes a multimer assembly of DNA sequences (I)

CC comprising at least one amplification cassette (AC) having at least one
CC monomer sequence whose polymerisation is desired, and a 5' restriction
CC pair member (RPM) at its 5' terminus and 3' RPM at its 3' terminus, and
CC one or more of following: (a) 3'-terminal cassette comprising 3' specific
CC sequence and 5' RPM site fused to a 3' RPM site of AC; or (b) 5'-terminal
CC cassette comprising 5' specific sequence and 3' RPM site fused to a 5'
CC RPM site of AC. (I) can be used for expressing a diagnostic protein or
CC therapeutic protein. In (I), the diagnostic protein and therapeutic
CC protein is a cytokine, a growth factor, a hormone, a receptor, a receptor
CC ligand, an enzyme, an inhibitor, a transcription factor, a translation
CC factor, a DNA replication factor, an activator, a chaperonin, or an
CC antibody. The therapeutic protein is interferon (IFN) alpha, IFN-beta,
CC IFN-gamma, interleukin (IL)-1, IL-2, IL-3, IL-4, IL-5, IL-6, IL-7, IL-8,
CC IL-9, IL-10, IL-11, IL-12, IL-13, IL-14, IL-15, IL-16, erythropoietin,
CC colony-stimulating factor-1, granulocyte colony-stimulating factor,
CC granulocyte-macrophage colony-stimulating factor, leukaemia inhibitory
CC factor, tumour necrosis factor, lymphotoxin, platelet-derived growth
CC factor, fibroblast growth factors, vascular endothelial cell growth
CC factor, epidermal growth factor, transforming growth factor-beta,
CC transforming growth factor-alpha, thrombopoietin, stem cell factor,
CC oncostatin M, amphiregulin, mullerian-inhibiting substance, B-cell growth
CC factor, macrophage migration inhibiting factor, endostatin, or
CC angiostatin. The present sequence is used in the exemplification of the
CC present invention.
XX
SQ Sequence 188 AA;

Query Match 99.3%; Score 675; DB 8; Length 188;
Best Local Similarity 99.3%; Pred. No. 8.1e-58;
Matches 133; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

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Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIP 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||| ||||||
Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIP 60

Qy         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120

Qy        121 GIQTLMGRLEDGSP 134
              ||||||||||||||
Db        121 GIQTLMGRLEDGSP 134
```

RESULT 4
AAP90129
ID AAP90129 standard; protein; 192 AA.
XX
AC AAP90129;
XX
DT 24-OCT-2003 (revised)
DT 25-MAR-2003 (revised)
DT 06-FEB-1996 (revised)
DT 01-NOV-1989 (first entry)
XX
DE Human growth hormone.
XX
KW Human growth hormone; fusion protein; recombinant vector.
XX
OS Homo sapiens; (Human).
XX
PN JP01144981-A.
XX
PD 07-JUN-1989.
XX
PF 02-DEC-1987; 87JP-00304937.
XX
PR 02-DEC-1987; 87JP-00304937.
XX
PA (WAKT) WAKUNAGA SEIYAKU KK.
XX
DR WPI; 1989-209284/29.
DR N-PSDB; AAN90269.
XX
PT Recombinant vector contg. fused protein aminoacid coding - composed of
PT growth hormone or its polypeptide deriv. and foreign protein.
XX
PS Disclosure; Fig 1; 19pp; Japanese.
XX
CC The invention consists of a vector contg. a fusion protein which is
CC formed by ligating, downstream of a promoter, hGH or a deriv. (pref.
CC formed by subtstn. of Met-14 with Leu) and a foreign protein. Stability
CC of the vector in the host is greatly increased so the protein yield is
CC higher. (Updated on 25-MAR-2003 to correct PA field.) (Updated on 24-OCT-
CC 2003 to standardise OS field)
XX
SQ Sequence 192 AA;

Query Match 99.3%; Score 675; DB 1; Length 192;
Best Local Similarity 99.3%; Pred. No. 8.3e-58;
Matches 133; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

```
Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIP 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||| ||||||
Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIP 60

Qy         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120

Qy        121 GIQTLMGRLEDGSP 134
              ||||||||||||||
Db        121 GIQTLMGRLEDGSP 134
```

RESULT 5
AAW92264
ID AAW92264 standard; protein; 192 AA.
XX
AC AAW92264;
XX
DT 08-JUN-1999 (first entry)
XX
DE Human anti-angiogenic peptide hGH Met-1Phe191.
XX
KW Human; anti-angiogenic; prolactin; placental lactogen; hPL; angiogenesis;
KW growth hormone; hGH; hGH-V; capillary endothelial cell proliferation;
KW placental vascularisation; pregnancy; treatment; angiogenic disease;
KW tumour; inhibitor; malignant; angiofibroma; arteriovenous malformation;
KW arthritis; atherosclerotic plaques; corneal graft neovascularisation;
KW wound healing; proliferative retinopathy; macular degeneration; trachoma;
KW granulation; glaucoma; ocular; uveitis; fracture; Osler-Weber syndrome;
KW psoriasis; fibroplasia; scleroderma; Kaposi's sarcoma; vascular adhesion;
KW ulcer; leukaemia; reproductive disorder; contraceptive agent;
KW gene therapy; pre-eclampsia; intrauterine growth retardation;
KW placental dysfunction.
XX
OS Homo sapiens.
XX
PN WO9851323-A1.
XX
PD 19-NOV-1998.
XX
PF 12-MAY-1998; 98WO-US009691.
XX
PR 13-MAY-1997; 97US-0046394P.
XX
PA (REGC) UNIV CALIFORNIA.
XX
PI Weiner RI, Martial JA, Struman I, Taylor R;
XX
DR WPI; 1999-045192/04.
DR N-PSDB; AAX01706.
XX
PT New anti-angiogenic peptides - comprise N-terminal fragments of human
PT placental lactogen, human growth hormone, growth hormone variant or human

PT prolactin.
XX
PS Example 3; Page 49; 87pp; English.
XX
CC This invention describes novel human anti-angiogenic peptides derived
CC from 10 to 150 consecutive amino acids selected from the N-terminal end
CC of human placental lactogen (hPL), human growth hormone (hGH), growth
CC hormone variant (hGH-V), or human prolactin. Such peptides (i) inhibit
CC capillary endothelial cell proliferation and organisation (ii) inhibit
CC angiogenesis in chick chorioallantoic membrane and (iii) binds to at
CC least one specific receptor which does not bind an intact full length
CC hGH, hPL, prolactin or hGH-V. The invention also describes a method for
CC diagnosing a probable abnormality of placental vascularisation during
CC pregnancy. The peptides can be used for treating an angiogenic disease in
CC a subject, for inhibiting tumour formation or growth in a patient or for
CC modulating vascularisation of a patient's placenta. In particular, the
CC peptides can be used for preventing or treating e.g. malignant tumours,
CC angiofibroma, arteriovenous malformation, arthritic such as rheumatoid
CC arthritis, atherosclerotic plaques, corneal graft neovascularisation,
CC delayed wound healing, proliferative retinopathy such as diabetic
CC retinopathy, macular degeneration, granulations such as those occurring
CC in haemophilic joints, inappropriate vascularisation in wound healing
CC such as hypertrophic scars or keloid scars, neovascular glaucoma, ocular
CC tumour, uveitis, non-union fractures, Osler-Weber syndrome, psoriasis,
CC pyogenic glaucoma, retrolental fibroplasia, scleroderma, solid tumours,
CC Kaposi's sarcoma, trachoma, vascular adhesions, chronic varicose ulcers,
CC leukaemia, and reproductive disorders such as follicular and luteal cysts
CC and choriocarcinoma. They can also be used as contraceptive agents. DNA
CC encoding the peptides can be used in gene therapy. The measurement of
CC abnormal levels of N-terminal fragments of hGH, hGH-V, prolactin or hPL
CC can be used in assays for impairment of vascular development associated
CC with pre-eclampsia, intrauterine growth retardation, and placental
CC dysfunction
XX
SQ Sequence 192 AA;

Query Match 99.3%; Score 675; DB 2; Length 192;
Best Local Similarity 99.3%; Pred. No. 8.3e-58;
Matches 133; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

```
Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIP 60
              |||||||||||||||||||||||||||||||||||||||||||||||||||| ||||||
Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIP 60

Qy         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120

Qy        121 GIQTLMGRLEDGSP 134
              ||||||||||||||
Db        121 GIQTLMGRLEDGSP 134
```

RESULT 6
ADI47320
ID ADI47320 standard; protein; 192 AA.
XX
AC ADI47320;
XX
DT 22-APR-2004 (first entry)
XX
DE Plasmid p0A0 amino acid sequence SEQ ID NO:8.
XX
KW multimer assembly; DNA sequence; amplification cassette;
KW monomer sequence; restriction pair member; diagnostic protein;
KW therapeutic protein.
XX
OS Synthetic.
XX
PN WO2004007687-A2.
XX
PD 22-JAN-2004.
XX
PF 16-JUL-2003; 2003WO-US022216.
XX
PR 16-JUL-2002; 2002US-0396466P.
XX
PA (BUSS/) BUSSELL S.
XX
PI Bussell S;
XX
DR WPI; 2004-122926/12.
DR N-PSDB; ADI47319.
XX
PT Multimer assembly of DNA sequences comprising an amplification cassette
PT having monomer sequences and 5' restriction pair member (RPM) at its 5'
PT terminus and 3' RPM at its 3' terminus.
XX
PS Example 1; SEQ ID NO 8; 163pp; English.
XX
CC The present invention describes a multimer assembly of DNA sequences (I)
CC comprising at least one amplification cassette (AC) having at least one
CC monomer sequence whose polymerisation is desired, and a 5' restriction
CC pair member (RPM) at its 5' terminus and 3' RPM at its 3' terminus, and
CC one or more of following: (a) 3'-terminal cassette comprising 3' specific
CC sequence and 5' RPM site fused to a 3' RPM site of AC; or (b) 5'-terminal
CC cassette comprising 5' specific sequence and 3' RPM site fused to a 5'
CC RPM site of AC. (I) can be used for expressing a diagnostic protein or
CC therapeutic protein. In (I), the diagnostic protein and therapeutic
CC protein is a cytokine, a growth factor, a hormone, a receptor, a receptor
CC ligand, an enzyme, an inhibitor, a transcription factor, a translation
CC factor, a DNA replication factor, an activator, a chaperonin, or an
CC antibody. The therapeutic protein is interferon (IFN) alpha, IFN-beta,
CC IFN-gamma, interleukin (IL)-1, IL-2, IL-3, IL-4, IL-5, IL-6, IL-7, IL-8,
CC IL-9, IL-10, IL-11, IL-12, IL-13, IL-14, IL-15, IL-16, erythropoietin,
CC colony-stimulating factor-1, granulocyte colony-stimulating factor,
CC granulocyte-macrophage colony-stimulating factor, leukaemia inhibitory
CC factor, tumour necrosis factor, lymphotoxin, platelet-derived growth
CC factor, fibroblast growth factors, vascular endothelial cell growth
CC factor, epidermal growth factor, transforming growth factor-beta,
CC transforming growth factor-alpha, thrombopoietin, stem cell factor,
CC oncostatin M, amphiregulin, mullerian-inhibiting substance, B-cell growth
CC factor, macrophage migration inhibiting factor, endostatin, or
CC angiostatin. The present sequence is used in the exemplification of the
CC present invention.
XX
SQ Sequence 192 AA;

Query Match 99.3%; Score 675; DB 8; Length 192;
Best Local Similarity 99.3%; Pred. No. 8.3e-58;
Matches 133; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

```
Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIP 60
              |||||||||||||||||||||||||||||||||||||||||||||||||||| ||||||
Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIP 60

Qy         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120

Qy        121 GIQTLMGRLEDGSP 134
              ||||||||||||||
Db        121 GIQTLMGRLEDGSP 134
```

RESULT 7
ADI47390
ID ADI47390 standard; protein; 192 AA.
XX
AC ADI47390;
XX
DT 22-APR-2004 (first entry)
XX
DE Plasmid p0A51A amino acid sequence SEQ ID NO:78.
XX
KW multimer assembly; DNA sequence; amplification cassette;

KW monomer sequence; restriction pair member; diagnostic protein;
KW therapeutic protein.
XX
OS Synthetic.
XX
PN WO2004007687-A2.
XX
PD 22-JAN-2004.
XX
PF 16-JUL-2003; 2003WO-US022216.
XX
PR 16-JUL-2002; 2002US-0396466P.
XX
PA (BUSS/) BUSSELL S.
XX
PI Bussell S;
XX
DR WPI; 2004-122926/12.
DR P-PSDB; ADI47389.
XX
PT Multimer assembly of DNA sequences comprising an amplification cassette
PT having monomer sequences and 5' restriction pair member (RPM) at its 5'
PT terminus and 3' RPM at its 3' terminus.
XX
PS Example 12; SEQ ID NO 78; 163pp; English.
XX
CC The present invention describes a multimer assembly of DNA sequences (I)
CC comprising at least one amplification cassette (AC) having at least one
CC monomer sequence whose polymerisation is desired, and a 5' restriction
CC pair member (RPM) at its 5' terminus and 3' RPM at its 3' terminus, and
CC one or more of following: (a) 3'-terminal cassette comprising 3' specific
CC sequence and 5' RPM site fused to a 3' RPM site of AC; or (b) 5'-terminal
CC cassette comprising 5' specific sequence and 3' RPM site fused to a 5'
CC RPM site of AC. (I) can be used for expressing a diagnostic protein or
CC therapeutic protein. In (I), the diagnostic protein and therapeutic
CC protein is a cytokine, a growth factor, a hormone, a receptor, a receptor
CC ligand, an enzyme, an inhibitor, a transcription factor, a translation
CC factor, a DNA replication factor, an activator, a chaperonin, or an
CC antibody. The therapeutic protein is interferon (IFN) alpha, IFN-beta,
CC IFN-gamma, interleukin (IL)-1, IL-2, IL-3, IL-4, IL-5, IL-6, IL-7, IL-8,
CC IL-9, IL-10, IL-11, IL-12, IL-13, IL-14, IL-15, IL-16, erythropoietin,
CC colony-stimulating factor-1, granulocyte colony-stimulating factor,
CC granulocyte-macrophage colony-stimulating factor, leukaemia inhibitory
CC factor, tumour necrosis factor, lymphotoxin, platelet-derived growth
CC factor, fibroblast growth factors, vascular endothelial cell growth
CC factor, epidermal growth factor, transforming growth factor-beta,
CC transforming growth factor-alpha, thrombopoietin, stem cell factor,
CC oncostatin M, amphiregulin, mullerian-inhibiting substance, B-cell growth
CC factor, macrophage migration inhibiting factor, endostatin, or
CC angiostatin. The present sequence is used in the exemplification of the
CC present invention.
XX
SQ Sequence 192 AA;

Query Match 99.3%; Score 675; DB 8; Length 192;
Best Local Similarity 99.3%; Pred. No. 8.3e-58;
Matches 133; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

```
Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIP 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||| ||||||
Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIP 60

Qy         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120

Qy        121 GIQTLMGRLEDGSP 134
              ||||||||||||||
Db        121 GIQTLMGRLEDGSP 134
```

RESULT 8
ADI47398

ID ADI47398 standard; protein; 192 AA.
XX
AC ADI47398;
XX
DT 22-APR-2004 (first entry)
XX
DE Nmer amplification cassette amino acid sequence SEQ ID NO:86.
XX
KW multimer assembly; DNA sequence; amplification cassette;
KW monomer sequence; restriction pair member; diagnostic protein;
KW therapeutic protein.
XX
OS Synthetic.
XX
PN WO2004007687-A2.
XX
PD 22-JAN-2004.
XX
PF 16-JUL-2003; 2003WO-US022216.
XX
PR 16-JUL-2002; 2002US-0396466P.
XX
PA (BUSS/) BUSSELL S.
XX
PI Bussell S;
XX
DR WPI; 2004-122926/12.
DR P-PSDB; ADI47397.
XX
PT Multimer assembly of DNA sequences comprising an amplification cassette
PT having monomer sequences and 5' restriction pair member (RPM) at its 5'
PT terminus and 3' RPM at its 3' terminus.
XX
PS Claim 115; SEQ ID NO 86; 163pp; English.
XX
CC The present invention describes a multimer assembly of DNA sequences (I)
CC comprising at least one amplification cassette (AC) having at least one
CC monomer sequence whose polymerisation is desired, and a 5' restriction
CC pair member (RPM) at its 5' terminus and 3' RPM at its 3' terminus, and
CC one or more of following: (a) 3'-terminal cassette comprising 3' specific
CC sequence and 5' RPM site fused to a 3' RPM site of AC; or (b) 5'-terminal
CC cassette comprising 5' specific sequence and 3' RPM site fused to a 5'
CC RPM site of AC. (I) can be used for expressing a diagnostic protein or
CC therapeutic protein. In (I), the diagnostic protein and therapeutic
CC protein is a cytokine, a growth factor, a hormone, a receptor, a receptor
CC ligand, an enzyme, an inhibitor, a transcription factor, a translation
CC factor, a DNA replication factor, an activator, a chaperonin, or an
CC antibody. The therapeutic protein is interferon (IFN) alpha, IFN-beta,
CC IFN-gamma, interleukin (IL)-1, IL-2, IL-3, IL-4, IL-5, IL-6, IL-7, IL-8,
CC IL-9, IL-10, IL-11, IL-12, IL-13, IL-14, IL-15, IL-16, erythropoietin,
CC colony-stimulating factor-1, granulocyte colony-stimulating factor,
CC granulocyte-macrophage colony-stimulating factor, leukaemia inhibitory
CC factor, tumour necrosis factor, lymphotoxin, platelet-derived growth
CC factor, fibroblast growth factors, vascular endothelial cell growth
CC factor, epidermal growth factor, transforming growth factor-beta,
CC transforming growth factor-alpha, thrombopoietin, stem cell factor,
CC oncostatin M, amphiregulin, mullerian-inhibiting substance, B-cell growth
CC factor, macrophage migration inhibiting factor, endostatin, or
CC angiostatin. The present sequence is used in the exemplification of the
CC present invention.
XX
SQ Sequence 192 AA;

Query Match 99.3%; Score 675; DB 8; Length 192;
Best Local Similarity 99.3%; Pred. No. 8.3e-58;
Matches 133; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

```
Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIP 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||| ||||||
Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIP 60

Qy         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
```

```
Db         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120

Qy        121 GIQTLMGRLEDGSP 134
              ||||||||||||||
Db        121 GIQTLMGRLEDGSP 134


RESULT 9
ADV25451
ID   ADV25451 standard; protein; 192 AA.
XX
AC   ADV25451;
XX
DT   24-FEB-2005  (first entry)
XX
DE   Human growth hormone O-glycosylation mutant 6.
XX
KW   Somatotropin; protein engineering; glycosylation; hormone; dwarfism;
KW   endocrine-gen.; endocrine disease; metabolic disorder; mutein.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
PN   WO2004103275-A2.
XX
PD   02-DEC-2004.
XX
PF   07-MAY-2004; 2004WO-US014254.
XX
PR   09-MAY-2003; 2003US-0469114P.
PR   13-AUG-2003; 2003US-0494751P.
PR   14-AUG-2003; 2003US-0495076P.
PR   08-JAN-2004; 2004US-0535290P.
XX
PA   (NEOS-) NEOSE TECHNOLOGIES INC.
PA   (DEFR/) DEFREES S.
XX
PI   Clausen H;
XX
DR   WPI; 2004-834156/82.
XX
PT   New nucleic acid comprising a sequence encoding a mutant human growth
PT   hormone comprising a newly introduced N-linked or O-linked glycosylation
PT   site, useful in preparing a composition for treating human growth hormone
PT   deficiency.
XX
PS   Claim 13; SEQ ID NO 8; 136pp; English.
XX
CC   The present sequence is that of a mutant human growth hormone
CC   (somatotropin) which includes an N-terminal Met residue. The invention
CC   relates to mutants ADV25446-ADV25452 of human somatotropin that contain
CC   newly introduced N-linked or O-linked glycosylation site(s), such that
CC   these recombinantly produced polypeptides have glycosylation patterns
CC   distinctly different from that of the naturally-occurring hormone. The
CC   polynucleotide coding sequences for the mutants, expression cassettes
CC   comprising the coding sequences, cells expressing the mutants, and
CC   methods for producing the mutants are also provided, as well as
CC   pharmaceutical compositions comprising the mutants and methods for using
CC   the mutants. The mutant growth hormone is optionally conjugated to one or
CC   more modifying group(s), preferably via glycoconjugation giving rise to a
CC   glycosyl linking group between the glycosylation site and the modifying
CC   group. An exemplary modifying group is polyethylene glycol. The mutant
CC   growth hormone is used in a claimed method for treating human growth
CC   hormone deficiency in a patient.
XX
SQ   Sequence 192 AA;

  Query Match             99.3%;  Score 675;  DB 8;  Length 192;
  Best Local Similarity   99.3%;  Pred. No. 8.3e-58;
  Matches  133;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIP 60
              |||||||||||||||||||||||||||||||||||||||||||||||||||||| ||||||

Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIP 60

Qy         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120

Qy        121 GIQTLMGRLEDGSP 134
              ||||||||||||||
Db        121 GIQTLMGRLEDGSP 134


RESULT 10
ADV25452
ID   ADV25452 standard; protein; 192 AA.
XX
AC   ADV25452;
XX
DT   24-FEB-2005  (first entry)
XX
DE   Human growth hormone O-glycosylation mutant 7.
XX
KW   Somatotropin; protein engineering; glycosylation; hormone; dwarfism;
KW   endocrine-gen.; endocrine disease; metabolic disorder; mutein.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
PN   WO2004103275-A2.
XX
PD   02-DEC-2004.
XX
PF   07-MAY-2004; 2004WO-US014254.
XX
PR   09-MAY-2003; 2003US-0469114P.
PR   13-AUG-2003; 2003US-0494751P.
PR   14-AUG-2003; 2003US-0495076P.
PR   08-JAN-2004; 2004US-0535290P.
XX
PA   (NEOS-) NEOSE TECHNOLOGIES INC.
PA   (DEFR/) DEFREES S.
XX
PI   Clausen H;
XX
DR   WPI; 2004-834156/82.
XX
PT   New nucleic acid comprising a sequence encoding a mutant human growth
PT   hormone comprising a newly introduced N-linked or O-linked glycosylation
PT   site, useful in preparing a composition for treating human growth hormone
PT   deficiency.
XX
PS   Claim 13; SEQ ID NO 9; 136pp; English.
XX
CC   The present sequence is that of a mutant human growth hormone
CC   (somatotropin) which includes an N-terminal Met residue. The invention
CC   relates to mutants ADV25446-ADV25452 of human somatotropin that contain
CC   newly introduced N-linked or O-linked glycosylation site(s), such that
CC   these recombinantly produced polypeptides have glycosylation patterns
CC   distinctly different from that of the naturally-occurring hormone. The
CC   polynucleotide coding sequences for the mutants, expression cassettes
CC   comprising the coding sequences, cells expressing the mutants, and
CC   methods for producing the mutants are also provided, as well as
CC   pharmaceutical compositions comprising the mutants and methods for using
CC   the mutants. The mutant growth hormone is optionally conjugated to one or
CC   more modifying group(s), preferably via glycoconjugation giving rise to a
CC   glycosyl linking group between the glycosylation site and the modifying
CC   group. An exemplary modifying group is polyethylene glycol. The mutant
CC   growth hormone is used in a claimed method for treating human growth
CC   hormone deficiency in a patient.
XX
SQ   Sequence 192 AA;

  Query Match             99.3%;  Score 675;  DB 8;  Length 192;
  Best Local Similarity   99.3%;  Pred. No. 8.3e-58;
```

```
  Matches  133;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIP 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||| ||||||
Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIP 60

Qy         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120

Qy        121 GIQTLMGRLEDGSP 134
              ||||||||||||||
Db        121 GIQTLMGRLEDGSP 134


RESULT 11
ADV91669
ID   ADV91669 standard; protein; 192 AA.
XX
AC   ADV91669;
XX
DT   24-FEB-2005 (first entry)
XX
DE   HUman growth hormone protein for recombinant production.
XX
KW   recombinant protein; recombinant DNA; somatotropin; growth hormone.
XX
OS   Homo sapiens.
XX
PN   RU2233879-C1.
XX
PD   10-AUG-2004.
XX
PF   17-DEC-2002; 2002RU-00133932.
XX
PR   17-DEC-2002; 2002RU-00133932.
XX
PA   (ASBI=) AS RUSSIA BIO-ORGANIC CHEM INST.
PA   (MAST=) MASTERKLON STOCK CO.
XX
PI   Gabibov AG,  Ponomarenko NA,  Vorobev II,  Demin AV,  Martyanov VA;
PI   Shuster AM,  Bairamashvili DI,  Miroshnikov AI;
XX
DR   WPI; 2004-622511/60.
DR   N-PSDB; ADV91670, ADV91671.
XX
PT   Recombinant plasmid DNA pES1-6 encoding somatotropin polypeptide, useful
PT   in the improved production of recombinant somatotropin.
XX
PS   Disclosure; Fig 1; 10pp; Russian.
XX
CC   The invention relates to a recombinant plasmid DNA pES1-6 encoding a
CC   polypeptide with somatotropin amino acid sequence with molecular mass
CC   3.66 MDa (5949 pair bases). The specification also discloses an
CC   Escherichia coli BL21(DE3)/pES1-6 strain comprising a recombinant plasmid
CC   DNA pES1-6 as a producer of recombinant somatotropin. The invention
CC   provides a method for preparing recombinant somatotropin with high yield
CC   by the simplified technology. The plasmid can be used for preparing
CC   recombinant human growth hormone. This sequence corresponds to the
CC   somatotropin protein.
XX
SQ   Sequence 192 AA;

  Query Match             99.3%;  Score 675;  DB 8;  Length 192;
  Best Local Similarity   99.3%;  Pred. No. 8.3e-58;
  Matches  133;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIP 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||| ||||||
Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIP 60

Qy         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120

Qy        121 GIQTLMGRLEDGSP 134
              ||||||||||||||
Db        121 GIQTLMGRLEDGSP 134


RESULT 12
ADW69738
ID   ADW69738 standard; protein; 192 AA.
XX
AC   ADW69738;
XX
DT   24-MAR-2005 (first entry)
XX
DE   Human growth hormone-192.
XX
KW   Somatotropin; recombinant protein.
XX
OS   Homo sapiens.
XX
PN   CN1524959-A.
XX
PD   01-SEP-2004.
XX
PF   16-SEP-2003; 2003CN-00146818.
XX
PR   16-SEP-2003; 2003CN-00146818.
XX
PA   (ZHOU/) ZHOU Q.
XX
PI   Zhou Q,  Xiao K,  Peng L;
XX
DR   WPI; 2004-797651/79.
XX
PT   Method for producing gene engineering recombination 192 peptide human
PT   growth hormone.
XX
PS   Disclosure; Page 5; 18pp; Chinese.
XX
CC   The invention related to a method for producing recombinant human growth
CC   hormone (GH). The method comprises: (1) obtaining human GH gene using
CC   Phil-D2 plasmid as a shuttle plasmid to transport GH cDNA into yeast
CC   cells, through the isogeny recombination with the genes on the yeast
CC   cell, gene engineering hGH yeast is constructed, (2) expression system,
CC   using the strain of Pichia pastoris as the expression host for human GH
CC   expression through the mode of inter-cell expression and (3) evoking hGH
CC   yeast expression for preparing human GH. The present sequence was used to
CC   illustrate the invention.
XX
SQ   Sequence 192 AA;

  Query Match             99.3%;  Score 675;  DB 8;  Length 192;
  Best Local Similarity   99.3%;  Pred. No. 8.3e-58;
  Matches  133;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIP 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||| ||||||
Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIP 60

Qy         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120

Qy        121 GIQTLMGRLEDGSP 134
              ||||||||||||||
Db        121 GIQTLMGRLEDGSP 134


RESULT 13
AEB96379
ID   AEB96379 standard; protein; 192 AA.
XX
```

```
AC   AEB96379;
XX
DT   06-OCT-2005  (first entry)
XX
DE   Human growth hormone, hGH, mutant polypeptide #4.
XX
KW   antianemic; nephrotropic; neuroprotective; nootropic; cerebroprotective;
KW   anti-HIV; antiinflammatory; virucide; hepatotropic; cytostatic;
KW   immunosuppressive; respiratory-gen.; muscular-gen.; immunomodulator;
KW   Human growth hormone; hGH; mutein.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
PN   WO2005070138-A2.
XX
PD   04-AUG-2005.
XX
PF   10-JAN-2005; 2005WO-US000799.
XX
PR   08-JAN-2004; 2004US-0535284P.
PR   12-FEB-2004; 2004US-0544411P.
PR   20-FEB-2004; 2004US-0546631P.
PR   23-MAR-2004; 2004US-0555813P.
PR   12-MAY-2004; 2004US-0570891P.
XX
PA   (NEOS-) NEOSE TECHNOLOGIES INC.
XX
PI   Defrees S,  Zopf DA,  Wang Z,  Clausen H;
XX
DR   WPI; 2005-597714/61.
XX
PT   Novel mutant polypeptide having O-linked glycosylation site that does not
PT   exist in wild-type polypeptide, useful for providing granulocyte colony
PT   stimulating factor therapy, hormone therapy and interferon therapy.
XX
PS   Example 13; Page 156; 197pp; English.
XX
CC   The invention relates to an isolated polypeptide (I) comprising a mutant
CC   peptide sequence, where the mutant peptide sequence encodes an O-linked
CC   glycosylation site that does not exist in a wild-type polypeptide. Also
CC   disclosed are pharmaceutical compositions (PC1-4). (I) and PC1 are useful
CC   for providing G-CSF therapy to a subject in need of the therapy. (I) and
CC   PC2 are useful for providing growth hormone therapy to a subject in need
CC   therapy. (I) and PC3 are useful for providing G-CSF therapy to a subject
CC   in need of therapy. (I) and PC4 are useful for providing interferon
CC   therapy to a subject in need of therapy. (I) and PC1-PC4 are useful for
CC   treating general anemia, chronic renal failure, nephritis, and
CC   thalassemia; neurological disorders such as brain/spine injury,
CC   Alzheimer's disease and multiple sclerosis, treating AIDS and hepatitis B
CC   or C, viral infectious caused by a variety of viruses such as human
CC   papilloma virus (HBV), coronavirus, HIV; cancers such as AIDS-related
CC   Kaposi's sarcoma, malignant melanoma, renal cancer, bone cancers,
CC   treating an assortment of other diseases and conditions such as Sjogren's
CC   syndrome (autoimmune disease), chronic fatigue syndrome, and pulmonary
CC   fibrosis, treating CNS disorders such as herpes simplex virus (HSV),
CC   musculoskeletal infections. The present sequence represents the amino
CC   acid sequence of a mutant human growth hormone, hGH, polypeptide.
XX
SQ   Sequence 192 aa;

  Query Match             99.3%;  Score 675;  DB 9;  Length 192;
  Best Local Similarity   99.3%;  Pred. No. 8.3e-58;
  Matches  133;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIP 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||| ||||||
Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIP 60

Qy         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120

Qy        121 GIQTLMGRLEDGSP 134
              ||||||||||||||
Db        121 GIQTLMGRLEDGSP 134


RESULT 14
AEB96178
ID   AEB96178 standard; protein; 192 AA.
XX
AC   AEB96178;
XX
DT   06-OCT-2005  (first entry)
XX
DE   Human growth hormone, hGH, polypeptide SEQ ID NO 19.
XX
KW   antianemic; nephrotropic; neuroprotective; nootropic; cerebroprotective;
KW   anti-HIV; antiinflammatory; virucide; hepatotropic; cytostatic;
KW   immunosuppressive; respiratory-gen.; muscular-gen.; immunomodulator;
KW   human growth hormone; hGH.
XX
OS   Homo sapiens.
XX
PN   WO2005070138-A2.
XX
PD   04-AUG-2005.
XX
PF   10-JAN-2005; 2005WO-US000799.
XX
PR   08-JAN-2004; 2004US-0535284P.
PR   12-FEB-2004; 2004US-0544411P.
PR   20-FEB-2004; 2004US-0546631P.
PR   23-MAR-2004; 2004US-0555813P.
PR   12-MAY-2004; 2004US-0570891P.
XX
PA   (NEOS-) NEOSE TECHNOLOGIES INC.
XX
PI   Defrees S,  Zopf DA,  Wang Z,  Clausen H;
XX
DR   WPI; 2005-597714/61.
XX
PT   Novel mutant polypeptide having O-linked glycosylation site that does not
PT   exist in wild-type polypeptide, useful for providing granulocyte colony
PT   stimulating factor therapy, hormone therapy and interferon therapy.
XX
PS   Claim 26; SEQ ID NO 19; 197pp; English.
XX
CC   The invention relates to an isolated polypeptide (I) comprising a mutant
CC   peptide sequence, where the mutant peptide sequence encodes an O-linked
CC   glycosylation site that does not exist in a wild-type polypeptide. Also
CC   disclosed are pharmaceutical compositions (PC1-4). (I) and PC1 are useful
CC   for providing G-CSF therapy to a subject in need of the therapy. (I) and
CC   PC2 are useful for providing growth hormone therapy to a subject in need
CC   therapy. (I) and PC3 are useful for providing G-CSF therapy to a subject
CC   in need of therapy. (I) and PC4 are useful for providing interferon
CC   therapy to a subject in need of therapy. (I) and PC1-PC4 are useful for
CC   treating general anemia, chronic renal failure, nephritis, and
CC   thalassemia; neurological disorders such as brain/spine injury,
CC   Alzheimer's disease and multiple sclerosis, treating AIDS and hepatitis B
CC   or C, viral infectious caused by a variety of viruses such as human
CC   papilloma virus (HBV), coronavirus, HIV; cancers such as AIDS-related
CC   Kaposi's sarcoma, malignant melanoma, renal cancer, bone cancers,
CC   treating an assortment of other diseases and conditions such as Sjogren's
CC   syndrome (autoimmune disease), chronic fatigue syndrome, and pulmonary
CC   fibrosis, treating CNS disorders such as herpes simplex virus (HSV),
CC   musculoskeletal infections. The present sequence represents the amino
CC   acid sequence of a human growth hormone, hGH, polypeptide.
XX
SQ   Sequence 192 AA;

  Query Match             99.3%;  Score 675;  DB 9;  Length 192;
  Best Local Similarity   99.3%;  Pred. No. 8.3e-58;
  Matches  133;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;
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Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIP 60
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Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIP 60

Qy         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120

Qy        121 GIQTLMGRLEDGSP 134
              ||||||||||||||
Db        121 GIQTLMGRLEDGSP 134
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RESULT 15
AEB96376
ID   AEB96376 standard; protein; 192 AA.
XX
AC   AEB96376;
XX
DT   06-OCT-2005  (first entry)
XX
DE   Human growth hormone, hGH, mutant polypeptide #1.
XX
KW   antianemic; nephrotropic; neuroprotective; nootropic; cerebroprotective;
KW   anti-HIV; antiinflammatory; virucide; hepatotropic; cytostatic;
KW   immunosuppressive; respiratory-gen.; muscular-gen.; immunomodulator;
KW   Human growth hormone; hGH; mutein.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
PN   WO2005070138-A2.
XX
PD   04-AUG-2005.
XX
PF   10-JAN-2005; 2005WO-US000799.
XX
PR   08-JAN-2004; 2004US-0535284P.
PR   12-FEB-2004; 2004US-0544411P.
PR   20-FEB-2004; 2004US-0546631P.
PR   23-MAR-2004; 2004US-0555813P.
PR   12-MAY-2004; 2004US-0570891P.
XX
PA   (NEOS-) NEOSE TECHNOLOGIES INC.
XX
PI   Defrees S,  Zopf DA,  Wang Z,  Clausen H;
XX
DR   WPI; 2005-597714/61.
XX
PT   Novel mutant polypeptide having O-linked glycosylation site that does not
PT   exist in wild-type polypeptide, useful for providing granulocyte colony
PT   stimulating factor therapy, hormone therapy and interferon therapy.
XX
PS   Example 13; Page 155; 197pp; English.
XX
CC   The invention relates to an isolated polypeptide (I) comprising a mutant
CC   peptide sequence, where the mutant peptide sequence encodes an O-linked
CC   glycosylation site that does not exist in a wild-type polypeptide. Also
CC   disclosed are pharmaceutical compositions (PC1-4). (I) and PC1 are useful
CC   for providing G-CSF therapy to a subject in need of the therapy. (I) and
CC   PC2 are useful for providing growth hormone therapy to a subject in need
CC   therapy. (I) and PC3 are useful for providing G-CSF therapy to a subject
CC   in need of therapy. (I) and PC4 are useful for providing interferon
CC   therapy to a subject in need of therapy. (I) and PC1-PC4 are useful for
CC   treating general anemia, chronic renal failure, nephritis, and
CC   thalassemia; neurological disorders such as brain/spine injury,
CC   Alzheimer's disease and multiple sclerosis, treating AIDS and hepatitis B
CC   or C, viral infectious caused by a variety of viruses such as human
CC   papilloma virus (HBV), coronavirus, HIV; cancers such as AIDS-related
CC   Kaposi's sarcoma, malignant melanoma, renal cancer, bone cancers,
CC   treating an assortment of other diseases and conditions such as Sjogren's
CC   syndrome (autoimmune disease), chronic fatigue syndrome, and pulmonary
CC   fibrosis, treating CNS disorders such as herpes simplex virus (HSV),
CC   musculoskeletal infections. The present sequence represents the amino
CC   acid sequence of a mutant human growth hormone, hGH, polypeptide.
XX
SQ   Sequence 192 AA;
```

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  Query Match             99.3%;  Score 675;  DB 9;  Length 192;
  Best Local Similarity   99.3%;  Pred. No. 8.3e-58;
  Matches  133;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIP 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||| ||||||
Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIP 60

Qy         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120

Qy        121 GIQTLMGRLEDGSP 134
              ||||||||||||||
Db        121 GIQTLMGRLEDGSP 134
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Search completed: May 11, 2006, 11:57:41
Job time : 191 secs
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GenCore version 5.1.8
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OM protein - protein search, using sw model

Run on: May 11, 2006, 11:58:00 ; Search time 39 Seconds
(without alignments)
330.591 Million cell updates/sec

Title: US-10-714-067-24
Perfect score: 680
Sequence: 1 MFPTIPLSRLFDNAMLRAHR.....LKDLEEGIQTLMGRLEDGSP 134

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283416 seqs, 96216763 residues

Total number of hits satisfying chosen parameters: 283416

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : PIR_80:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	670	98.5	217	1	STHU	somatotropin 1 pre
2	645	94.9	217	2	I67410	somatotropin - rhe
3	603	88.7	217	1	STHUV	somatotropin 2 pre
4	570.5	83.9	256	1	STHUV2	somatotropin 2 pre
5	558	82.1	217	2	I67409	chorionic somatoma
6	550	80.9	212	2	I67408	chorionic somatoma
7	550	80.9	217	2	I53267	chorionic somatoma
8	549	80.7	217	2	I67411	somatotropin - rhe
9	548	80.6	217	1	LCHUC	choriomammotropin
10	548	80.6	217	2	E32435	choriomammotropin
11	517	76.0	215	2	A26449	choriomammotropin
12	445	65.4	216	2	B49159	somatotropin - gol
13	441	64.9	190	2	PN0140	somatotropin - sei
14	440	64.7	190	2	JK0219	somatotropin - Afr
15	440	64.7	216	1	STPG	somatotropin precu
16	440	64.7	216	2	I46145	somatotropin precu
17	440	64.7	216	2	JC4632	somatotropin precu
18	439	64.6	216	1	STMS	somatotropin precu
19	438	64.4	216	2	A37782	somatotropin precu
20	437	64.3	216	1	STRT	somatotropin precu
21	436	64.1	190	1	A61584	somatotropin - alp
22	434	63.8	190	2	JS0429	somatotropin - Arc
23	434	63.8	216	2	S49483	somatotropin precu
24	432	63.5	190	1	STHO	somatotropin - hor
25	418	61.5	217	1	STBO	somatotropin precu
26	409	60.1	217	1	STGT	somatotropin precu
27	409	60.1	217	1	STSH	somatotropin precu
28	409	60.1	217	2	S32682	somatotropin - dom
29	400	58.8	216	2	JC1514	somatotropin precu
30	397	58.4	191	2	A60625	somatotropin - gre
31	397	58.4	216	2	A60509	somatotropin precu
32	390	57.4	199	2	B32435	choriomammotropin-
33	382.5	56.2	216	2	S04929	somatotropin precu
34	343	50.4	190	2	S21750	somatotropin - Rus
35	339	49.9	195	2	I51250	somatotropin - bow
36	334	49.1	190	2	A56816	somatotropin - bul
37	325	47.8	215	2	I51188	somatotropin - bul
38	324	47.6	215	2	JS0037	somatotropin precu
39	290.5	42.7	183	2	A60623	somatotropin - blu
40	256	37.6	209	2	JT0483	somatotropin I pre
41	241.5	35.5	163	2	JN0387	somatotropin - sei
42	235	34.6	139	2	S04353	somatotropin A - A
43	215	31.6	210	2	I50763	somatotropin - nob
44	215	31.6	210	2	S21915	somatotropin - sil
45	215	31.6	210	2	S38351	somatotropin - sil

ALIGNMENTS

RESULT 1
STHU
somatotropin 1 precursor [validated] - human
N;Alternate names: growth hormone 1; hGH-N; pituitary somatotropin
N;Contains: growth hormone 5K peptide; somatotropin 1, long form; somatotropin 1, short
C;Species: Homo sapiens (man)
C;Date: 24-Apr-1984 #sequence_revision 10-Feb-1995 #text_change 09-Jul-2004
C;Accession: A93731; A32435; A93694; A94247; A90051; A93397; A93778; A91764; A90217; A92
R;DeNoto, F.M.; Moore, D.D.; Goodman, H.M.
Nucleic Acids Res. 9, 3719-3730, 1981
A;Title: Human growth hormone DNA sequence and mRNA structure: possible alternative spli
A;Reference number: A93731; MUID:82014939; PMID:6269091
A;Accession: A93731
A;Molecule type: DNA
A;Residues: 1-217 <DEN>
A;Cross-references: UNIPROT:P01241; UNIPARC:UPI000002B7EE; GB:V00520
A;Note: the 20K short form somatotropin lacks residues 58-72 (32-46 in the active hormon
R;Chen, E.Y.; Liao, Y.C.; Smith, D.H.; Barrera-Saldana, H.A.; Gelinas, R.E.; Seeburg, P.
Genomics 4, 479-497, 1989
A;Title: The human growth hormone locus: nucleotide sequence, biology, and evolution.
A;Reference number: A32435; MUID:89307277; PMID:2744760
A;Accession: A32435
A;Molecule type: DNA
A;Residues: 1-217 <CHE>
A;Cross-references: UNIPARC:UPI000002B7EE; GB:J03071; NID:g183148; PIDN:AAA52549.1; PID:
R;Roskam, W.; Rougeon, F.
Nucleic Acids Res. 7, 305-320, 1979
A;Title: Molecular cloning and nucleotide sequence of the human growth hormone structura
A;Reference number: A93694; MUID:80034477; PMID:386281
A;Accession: A93694
A;Molecule type: mRNA
A;Residues: 1-217 <ROS>
A;Cross-references: UNIPARC:UPI000002B7EE; GB:V00519
A;Note: 35-Pro was also found
R;Martial, J.A.; Hallewell, R.A.; Baxter, J.D.; Goodman, H.M.
Science 205, 602-607, 1979
A;Title: Human growth hormone: complementary DNA cloning and expression in bacteria.
A;Reference number: A94247; MUID:79203293; PMID:377496
A;Accession: A94247
A;Molecule type: mRNA
A;Residues: 1-217 <MAR>
A;Cross-references: UNIPARC:UPI000002B7EE
R;Li, C.H.; Dixon, J.S.; Liu, W.K.
Arch. Biochem. Biophys. 133, 70-91, 1969
A;Title: Human pituitary growth hormone. XIX. The primary structure of the hormone.
A;Reference number: A90048; MUID:69289202; PMID:5810834
A;Contents: annotation
R;Li, C.H.; Dixon, J.S.
Arch. Biochem. Biophys. 146, 233-236, 1971
A;Title: Human pituitary growth hormone. XXXII. The primary structure of the hormone: rev
A;Reference number: A90051; MUID:72143935; PMID:5144027
A;Accession: A90051

A;Molecule type: protein
A;Residues: 27-94;96-217 <LIC>
A;Cross-references: UNIPARC:UPI0000173468; UNIPARC:UPI0000173469
R;Niall, H.D.
Nature New Biol. 230, 90-91, 1971
A;Title: Revised primary structure for human growth hormone.
A;Reference number: A93397; MUID:71139765; PMID:5279046
A;Accession: A93397
A;Molecule type: protein
A;Residues: 27-51 <NIA>
A;Cross-references: UNIPARC:UPI000017346A
R;Niall, H.D.; Hogan, M.L.; Sauer, R.; Rosenblum, I.Y.; Greenwood, F.C.
Proc. Natl. Acad. Sci. U.S.A. 68, 866-869, 1971
A;Title: Sequences of pituitary and placental lactogenic and growth hormones: evolution
A;Reference number: A93778; MUID:71153968; PMID:5279528
A;Accession: A93778
A;Molecule type: protein
A;Residues: 119-120;157-159 <NI2>
A;Cross-references: UNIPARC:UPI000017346B; UNIPARC:UPI000017346C
R;Niall, H.D.
in Prolactin and Carcinogenesis, Proc. Fourth Tenovus Workshop Prolactin, Griffiths, K.,
A;Title: The chemistry of the human lactogenic hormones.
A;Reference number: A94427
A;Contents: annotation; somatotropin revision
R;Bewley, T.A.; Dixon, J.S.; Li, C.H.
Int. J. Pept. Protein Res. 4, 281-287, 1972
A;Title: Sequence comparison of human pituitary growth hormone, human chorionic somatoma
A;Reference number: A91764; MUID:73092028; PMID:4675454
A;Accession: A91764
A;Molecule type: protein
A;Residues: 27-217 <BEW>
A;Cross-references: UNIPARC:UPI0000033871
R;Lewis, U.J.; Bonewald, L.F.; Lewis, L.J.
Biochem. Biophys. Res. Commun. 92, 511-516, 1980
A;Title: The 20,000-dalton variant of human growth hormone: location of the amino acid d
A;Reference number: A90217; MUID:80130196; PMID:7356479
A;Contents: somatotropin, 20K short variant
A;Accession: A90217
A;Molecule type: protein
A;Residues: 46-57;73-80 <LEW>
A;Cross-references: UNIPARC:UPI0000017346D; UNIPARC:UPI0000017346E
R;Chapman, G.E.; Rogers, K.M.; Brittain, T.; Bradshaw, R.A.; Bates, O.J.; Turner, C.; Ca
J. Biol. Chem. 256, 2395-2401, 1981
A;Title: The 20,000 molecular weight variant of human growth hormone. Preparation and sc
A;Reference number: A92311; MUID:81117361; PMID:7462247
A;Contents: somatotropin, 20K short variant
A;Accession: A92311
A;Molecule type: protein
A;Residues: 27-57;73-79 <CHA>
A;Cross-references: UNIPARC:UPI0000017346F; UNIPARC:UPI0000173470
R;Singh, R.N.P.; Seavey, B.K.; Lewis, L.J.; Lewis, U.J.
J. Protein Chem. 2, 425-436, 1983
A;Title: Human growth hormone peptide 1-43: isolation from pituitary glands.
A;Reference number: A61466
A;Accession: A61466
A;Molecule type: protein
A;Residues: 27-69 <SIN>
A;Cross-references: UNIPARC:UPI00000350CF
A;Note: growth hormone 5K peptide has insulin potentiating activity; its physiological p
R;Robson, V.M.J.; Rae, I.D.; NG, F.
Biol. Chem. Hoppe-Seyler 371, 423-431, 1990
A;Title: Identification of the aspartimide structure in a previously-reported peptide.
A;Reference number: S09685; MUID:90334745; PMID:2378679
A;Accession: S09685
A;Molecule type: protein
A;Residues: 27-34,'L',36-47 <ROB>
A;Cross-references: UNIPARC:UPI0000173471
R;de Vos, A.M.; Ultsch, M.; Kossiakoff, A.A.
Science 255, 306-312, 1992
A;Title: Human growth hormone and extracellular domain of its receptor: crystal structur
A;Reference number: A41728; MUID:92196577; PMID:1549776
A;Contents: annotation; X-ray crystallography, 2.8 angstroms
A;Note: the structure of the complex with growth hormone receptor is described

R;Gray, G.L.; Baldridge, J.S.; McKeown, K.S.; Heyneker, H.L.; Chang, C.N.
Gene 39, 247-254, 1985
A;Title: Periplasmic production of correctly processed human growth hormone in Escherichi
A;Reference number: I41126; MUID:86137393; PMID:3912261
A;Accession: I84549
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-26 <RES>
A;Cross-references: UNIPARC:UPI000003329E; GB:M14398; NID:g183158; PIDN:AAA52554.1; PID:g
C;Comment: The gene for this hormone is transcribed only in somatotrophic cells of the ar
C;Comment: About 90% of somatotropin is the 22K long form.
C;Genetics:
A;Gene: GDB:GH1
A;Cross-references: GDB:119982; OMIM:139250
A;Map position: 17q23.1-17q23.3
A;Introns: 4/1; 57/3; 97/3; 152/3
C;Superfamily: prolactin
C;Keywords: alternative splicing; hormone; pituitary
F;1-26/Domain: signal sequence #status predicted <SIG>
F;27-217/Product: somatotropin 1, long form #status experimental <SOL>
F;27-69/Product: growth hormone 5K peptide #status experimental <5KP>
F;27-57,73-217/Product: somatotropin 1, short form #status experimental <SOS>
F;79-191,208-215/Disulfide bonds: #status experimental

Query Match 98.5%; Score 670; DB 1; Length 217;
Best Local Similarity 99.2%; Pred. No. 2.5e-57;
Matches 132; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

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Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
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Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
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Qy        122 IQTLMGRLEDGSP 134
              |||||||||||||
Db        147 IQTLMGRLEDGSP 159
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RESULT 2
I67410
somatotropin - rhesus macaque
N;Alternate names: growth hormone
C;Species: Macaca mulatta (rhesus macaque)
C;Date: 31-May-1996 #sequence_revision 31-May-1996 #text_change 09-Jul-2004
C;Accession: I67410; A05094
R;Golos, T.G.; Durning, M.; Fisher, J.M.; Fowler, P.D.
Endocrinology 133, 1744-1752, 1993
A;Title: Cloning of four growth hormone/chorionic somatomammotropin-related complementary
A;Reference number: I53267; MUID:94008724; PMID:8404617
A;Accession: I67410
A;Status: translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-217 <RES>
A;Cross-references: UNIPROT:P33093; UNIPARC:UPI000003BE15; GB:L16556; NID:g293114; PIDN:A
R;Li, C.H.; Chung, D.; Lahm, H.W.; Stein, S.
Arch. Biochem. Biophys. 245, 287-291, 1986
A;Title: The primary structure of monkey pituitary growth hormone.
A;Reference number: A05094; MUID:86129460; PMID:3080959
A;Accession: A05094
A;Molecule type: protein
A;Residues: 27-99,'Q',101-178,'D',180-217 <LIC>
A;Cross-references: UNIPARC:UPI00001765E4
A;Note: the monkey species is not identified in the reference
R;Raben, M.S.
Science 125, 883-884, 1957
A;Title: Preparation of growth hormone from pituitaries of man and monkey.
A;Reference number: A44774
A;Contents: annotation; identification of source organism
C;Superfamily: prolactin

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  Query Match           94.9%;  Score 645;  DB 2;  Length 217;
  Best Local Similarity  97.0%;  Pred. No. 6.5e-55;
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Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
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Db         27 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIPT 86

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
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Qy        122 IQTLMGRLEDGS 133
              ||||||||||||
Db        147 IQTLMGRLEDGS 158


RESULT 3
STHUV
somatotropin 2 precursor - human
N;Alternate names: growth hormone 2; growth hormone variant; hGH-V; placental somatotrop
N;Contains: somatotropin 2, long splice form; somatotropin 2, short splice form
C;Species: Homo sapiens (man)
C;Date: 17-Dec-1982 #sequence_revision 10-Feb-1995 #text_change 09-Jul-2004
C;Accession: D32435; B28072; A01511; I52104; A60711
R;Chen, E.Y.; Liao, Y.C.; Smith, D.H.; Barrera-Saldana, H.A.; Gelinas, R.E.; Seeburg, P.
Genomics 4, 479-497, 1989
A;Title: The human growth hormone locus: nucleotide sequence, biology, and evolution.
A;Reference number: A32435; MUID:89307277; PMID:2744760
A;Accession: D32435
A;Molecule type: DNA
A;Residues: 1-217 <CHE>
A;Cross-references: UNIPROT:P01242; UNIPARC:UPI0000135C87; GB:J03071; NID:g183148; PIDN:
R;Cooke, N.E.; Ray, J.; Emery, J.G.; Liebhaber, S.A.
J. Biol. Chem. 263, 9001-9006, 1988
A;Title: Two distinct species of human growth hormone-variant mRNA in the human placenta
A;Reference number: A92725; MUID:88243769; PMID:3379057
A;Accession: B28072
A;Molecule type: mRNA
A;Residues: 1-217 <COO>
A;Cross-references: UNIPARC:UPI0000135C87
R;Seeburg, P.H.
DNA 1, 239-249, 1982
A;Title: The human growth hormone gene family: nucleotide sequences show recent divergen
A;Reference number: A01511; MUID:83182010; PMID:7169009
A;Accession: A01511
A;Molecule type: DNA
A;Residues: 1-34,'P',36-217 <SEE>
A;Cross-references: UNIPARC:UPI0000173472
R;Igout, A.; Scippo, M.L.; Frankenne, F.; Hennen, G.
Arch. Int. Physiol. Biochim. 96, 63-67, 1988
A;Title: Cloning and nucleotide sequence of placental hGH-V cDNA.
A;Reference number: I52104; MUID:89024984; PMID:2460050
A;Accession: I52104
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-217 <IGO>
A;Cross-references: UNIPARC:UPI0000135C87; GB:M38451; NID:g183179; PIDN:AAA35891.1; PID:
R;Frankenne, F.; Scippo, M.L.; Van Beeumen, J.; Igout, A.; Hennen, G.
J. Clin. Endocrinol. Metab. 71, 15-18, 1990
A;Title: Identification of placental human growth hormone as the growth hormone-V gene e
A;Reference number: A60711; MUID:90317018; PMID:2196278
A;Accession: A60711
A;Molecule type: protein
A;Residues: 27-44;46-57 <FRA>
A;Cross-references: UNIPARC:UPI0000173473; UNIPARC:UPI0000173474
A;Experimental source: tissue placenta
A;Note: partial glycosylation was demonstrated by lectin binding
C;Comment: This gene is expressed by the placenta.
C;Genetics:
A;Gene: GDB:GH2
A;Cross-references: GDB:119983; OMIM:139240
A;Map position: 17q22-17q24
A;Introns: 4/1; 57/3; 97/3; 152/3
C;Superfamily: prolactin
C;Keywords: alternative splicing; glycoprotein; hormone; placenta
F;1-26/Domain: signal sequence #status predicted <SIG>
F;27-217/Product: somatotropin 2, long splice form #status predicted <SOL>
F;27-57,73-217/Product: somatotropin 2, short splice form #status predicted <SOS>
F;79-191,208-215/Disulfide bonds: #status predicted
F;166/Binding site: carbohydrate (Asn) (covalent) #status predicted

  Query Match           88.7%;  Score 603;  DB 1;  Length 217;
  Best Local Similarity  91.7%;  Pred. No. 7.5e-51;
  Matches  122;  Conservative    3;  Mismatches    8;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
              |||||||||||||||| ||:|||:|||||||||| |||||||||||||| |||||||
Db         27 FPTIPLSRLFDNAMLRARRLYQLAYDTYQEFEEAYILKEQKYSFLQNPQTSLCFSESIPT 86

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
              |||| :|||||||||||||||||||||||| ||||||||||||||||||  |||||||
Db         87 PSNRVKTQQKSNLELLRISLLLIQSWLEPVQLLRSVFANSLVYGASDSNVYRHLKDLEEG 146

Qy        122 IQTLMGRLEDGSP 134
              ||||| |||||||
Db        147 IQTLMWRLEDGSP 159


RESULT 4
STHUV2
somatotropin 2 precursor, splice form 2 - human
N;Alternate names: growth hormone variant-2; placental somatotropin form 2
C;Species: Homo sapiens (man)
C;Date: 30-Sep-1989 #sequence_revision 10-Feb-1995 #text_change 09-Jul-2004
C;Accession: A28072
R;Cooke, N.E.; Ray, J.; Emery, J.G.; Liebhaber, S.A.
J. Biol. Chem. 263, 9001-9006, 1988
A;Title: Two distinct species of human growth hormone-variant mRNA in the human placenta
A;Reference number: A92725; MUID:88243769; PMID:3379057
A;Accession: A28072
A;Molecule type: mRNA
A;Residues: 1-256 <COO>
A;Cross-references: UNIPROT:P01242; UNIPARC:UPI000002B3EF
A;Note: an alternative splice junction for intron 4 is used
C;Genetics:
A;Gene: GDB:GH2
A;Cross-references: GDB:119983; OMIM:139240
A;Map position: 17q22-17q24
A;Introns: 4/1; 57/3; 97/3; 152/3
C;Superfamily: prolactin
C;Keywords: alternative splicing; hormone; placenta
F;1-26/Domain: signal sequence #status predicted <SIG>
F;27-256/Product: somatotropin 2 splice form 2 #status predicted <MAT>

  Query Match           83.9%;  Score 570.5;  DB 1;  Length 256;
  Best Local Similarity  88.1%;  Pred. No. 1.3e-47;
  Matches  118;  Conservative    4;  Mismatches   11;  Indels    1;  Gaps    1;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
              |||||||||||||||| ||:|||:|||||||||| |||||||||||||| |||||||
Db         27 FPTIPLSRLFDNAMLRARRLYQLAYDTYQEFEEAYILKEQKYSFLQNPQTSLCFSESIPT 86

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
              |||| :|||||||||||||||||||||||| ||||||||||||||||||  |||||||
Db         87 PSNRVKTQQKSNLELLRISLLLIQSWLEPVQLLRSVFANSLVYGASDSNVYRHLKDLEEG 146

Qy        122 IQTLMG-RLEDGSP 134
              |||||  |:  | |
Db        147 IQTLMWVRVAPGIP 160


RESULT 5
I67409
chorionic somatomammotropin-3 - rhesus macaque
C;Species: Macaca mulatta (rhesus macaque)
```

```
C;Date: 31-May-1996 #sequence_revision 31-May-1996 #text_change 09-Jul-2004
C;Accession: I67409
R;Golos, T.G.; Durning, M.; Fisher, J.M.; Fowler, P.D.
Endocrinology 133, 1744-1752, 1993
A;Title: Cloning of four growth hormone/chorionic somatomammotropin-related complementar
A;Reference number: I53267; MUID:94008724; PMID:8404617
A;Accession: I67409
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-217 <RES>
A;Cross-references: UNIPROT:Q07369; UNIPARC:UPI0000088C83; GB:L16554; NID:g293112; PIDN:
C;Superfamily: prolactin

  Query Match            82.1%;  Score 558;  DB 2;  Length 217;
  Best Local Similarity  81.1%;  Pred. No. 1.7e-46;
  Matches  107;  Conservative   13;  Mismatches   12;  Indels    0;  Gaps    0;

Qy          3 PTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPTP 62
              |::|||||||| |::|||||||||||||||||: ||||||:|:| : ||| |  |||||||
Db         28 PSVPLSRLFDNIMMQAHRLHQLAFDTYQEFEKTYIPKEKKHSLMGNPQASFCFSESIPTP 87

Qy         63 SNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEGI 122
              |||||||||||||||||||||||||||| | |||||:|||| |:|: |||||:|||||
Db         88 SNREETQQKSNLELLRISLLLIQSWLEPVQLLGSVFANNLVYGTSESDAYDLLKNLEEGI 147

Qy        123 QTLMGRLEDGSP 134
              |||| ||:||||
Db        148 QTLMRRLQDGSP 159


RESULT 6
I67408
chorionic somatomammotropin-2 - rhesus macaque (fragment)
C;Species: Macaca mulatta (rhesus macaque)
C;Date: 31-May-1996 #sequence_revision 31-May-1996 #text_change 09-Jul-2004
C;Accession: I67408
R;Golos, T.G.; Durning, M.; Fisher, J.M.; Fowler, P.D.
Endocrinology 133, 1744-1752, 1993
A;Title: Cloning of four growth hormone/chorionic somatomammotropin-related complementar
A;Reference number: I53267; MUID:94008724; PMID:8404617
A;Accession: I67408
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-212 <RES>
A;Cross-references: UNIPROT:Q07368; UNIPARC:UPI0000088EB6; GB:L16553; NID:g293110; PIDN:
C;Superfamily: prolactin

  Query Match            80.9%;  Score 550;  DB 2;  Length 212;
  Best Local Similarity  79.5%;  Pred. No. 9.5e-46;
  Matches  105;  Conservative   17;  Mismatches   10;  Indels    0;  Gaps    0;

Qy          3 PTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPTP 62
              |::|||||||:||::|||||||||||||||||||:|:| ::||| |  |::|||||
Db         23 PSVPLSRLFDHAMIQAHRLHQLAFDTYQEFEEAYIPKEKKHSLMENPQASFCFADSIPTP 82

Qy         63 SNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEGI 122
              || |||||||||||||||||||||||||||| |||||:|::  |||:|:|||||||||
Db         83 SNLEETQQKSNLELLRISLLLIQSWLEPVQFLSSVFANNLLHHTSDSDVHDLLKDLEEGI 142

Qy        123 QTLMGRLEDGSP 134
              :||| ||||| |
Db        143 ETLMWRLEDGIP 154


RESULT 7
I53267
chorionic somatomammotropin-1 - rhesus macaque
C;Species: Macaca mulatta (rhesus macaque)
C;Date: 31-May-1996 #sequence_revision 31-May-1996 #text_change 09-Jul-2004
C;Accession: I53267
R;Golos, T.G.; Durning, M.; Fisher, J.M.; Fowler, P.D.
Endocrinology 133, 1744-1752, 1993
A;Title: Cloning of four growth hormone/chorionic somatomammotropin-related complementar
A;Reference number: I53267; MUID:94008724; PMID:8404617
A;Accession: I53267
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-217 <RES>
A;Cross-references: UNIPROT:Q07367; UNIPARC:UPI0000088C19; GB:L16552; NID:g293108; PIDN:
C;Superfamily: prolactin

  Query Match            80.9%;  Score 550;  DB 2;  Length 217;
  Best Local Similarity  79.5%;  Pred. No. 9.8e-46;
  Matches  105;  Conservative   17;  Mismatches   10;  Indels    0;  Gaps    0;

Qy          3 PTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPTP 62
              |::|||||||:||::|||||||||||||||||||:|:| ::||| |  |::|||||
Db         28 PSVPLSRLFDHAMIQAHRLHQLAFDTYQEFEEAYIPKEKKHSLMENPQASFCFADSIPTP 87

Qy         63 SNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEGI 122
              || |||||||||||||||||||||||||||| |||||:|::  |||:|:|||||||||
Db         88 SNLEETQQKSNLELLRISLLLIQSWLEPVQFLSSVFANNLLHHTSDSDVHDLLKDLEEGI 147

Qy        123 QTLMGRLEDGSP 134
              :||| ||||| |
Db        148 ETLMWRLEDGIP 159


RESULT 8
I67411
somatotropin - rhesus macaque
N;Alternate names: growth hormone
C;Species: Macaca mulatta (rhesus macaque)
C;Date: 31-May-1996 #sequence_revision 31-May-1996 #text_change 09-Jul-2004
C;Accession: I67411
R;Golos, T.G.; Durning, M.; Fisher, J.M.; Fowler, P.D.
Endocrinology 133, 1744-1752, 1993
A;Title: Cloning of four growth hormone/chorionic somatomammotropin-related complementary
A;Reference number: I53267; MUID:94008724; PMID:8404617
A;Accession: I67411
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-217 <RES>
A;Cross-references: UNIPROT:Q07370; UNIPARC:UPI000016C489; GB:L16555; NID:g293116; PIDN:
C;Superfamily: prolactin

  Query Match            80.7%;  Score 549;  DB 2;  Length 217;
  Best Local Similarity  82.0%;  Pred. No. 1.2e-45;
  Matches  109;  Conservative   10;  Mismatches   14;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
              ||||||| ||: |: ||| ||:|||||| :|||||||||||||:|||||| |||||||
Db         27 FPTIPLSWLFNTAVFRAHHLHKLAFDTYPKFEEAYIPKEQKYSFLRNPQTSLCFSESIPT 86

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
              |||:|||||||||||| |||||||||||||||||||| ||:  |: ::|  || ||||
Db         87 PSNKEETQQKSNLELLHISLLLIQSWLEPVQFLRSVFANHLVHTNSNFDIYLYLKKLEEG 146

Qy        122 IQTLMGRLEDGSP 134
              |||||||||||||
Db        147 IQTLMGRLEDGSP 159


RESULT 9
LCHUC
choriomammotropin A precursor [validated] - human
N;Alternate names: chorionic somatomammotropin 1; placental lactogen
C;Species: Homo sapiens (man)
C;Date: 23-Oct-1981 #sequence_revision 23-Oct-1981 #text_change 09-Jul-2004
C;Accession: C32435; A94422; I52342; A93833; A93192; A90054; A94427; A61283; I55229; I59
R;Chen, E.Y.; Liao, Y.C.; Smith, D.H.; Barrera-Saldana, H.A.; Gelinas, R.E.; Seeburg, P.H
Genomics 4, 479-497, 1989
A;Title: The human growth hormone locus: nucleotide sequence, biology, and evolution.
A;Reference number: A32435; MUID:89307277; PMID:2744760
A;Accession: C32435
A;Molecule type: DNA
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A;Residues: 1-217 <CHE>
A;Cross-references: UNIPROT:P01243; UNIPARC:UPI0000000C48; GB:J03071; NID:g183148; PIDN:
R;Goodman, H.M.; DeNoto, F.; Fiddes, J.C.; Hallewell, R.A.; Page, G.S.; Smith, S.; Tisch
in Mobilization and Reassembly of Genetic Information, Scott, W.A., Werner, R., Joseph,
A;Reference number: A94422
A;Accession: A94422
A;Molecule type: mRNA
A;Residues: 1-217 <GOO>
A;Cross-references: UNIPARC:UPI0000000C48
R;Tanaka, M.; Masuda, N.; Watahiki, M.; Yamakawa, M.; Shimizu, K.; Nagai, J.; Nakashima,
Biochem. Int. 16, 287-292, 1988
A;Title: cDNA cloning of human chorionic somatomammotropin-1 mRNA whose transcription wa
A;Reference number: I52342; MUID:88209096; PMID:2835050
A;Accession: I52342
A;Status: translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-3 <TAN>
A;Cross-references: UNIPARC:UPI000011E96D; GB:M35419; NID:g506822
R;Sherwood, L.M.; Burstein, Y.; Schechter, I.
Proc. Natl. Acad. Sci. U.S.A. 76, 3819-3823, 1979
A;Title: Primary structure of the NH-2-terminal extra piece of the precursor to human pl
A;Reference number: A93833; MUID:80034970; PMID:291043
A;Accession: A93833
A;Molecule type: protein
A;Residues: 1,3-26 <SHE>
A;Cross-references: UNIPARC:UPI0000173475
A;Experimental source: placenta
R;Shine, J.; Seeburg, P.H.; Martial, J.A.; Baxter, J.D.; Goodman, H.M.
Nature 270, 494-499, 1977
A;Title: Construction and analysis of recombinant DNA for human chorionic somatomammotrc
A;Reference number: A93192; MUID:78071761; PMID:593368
A;Accession: A93192
A;Molecule type: DNA
A;Residues: 50-217 <SHI>
A;Cross-references: UNIPARC:UPI0000173476
A;Experimental source: placenta
R;Li, C.H.; Dixon, J.S.; Chung, D.
Arch. Biochem. Biophys. 155, 95-110, 1973
A;Title: Amino acid sequence of human chorionic somatomammotropin.
A;Reference number: A90054; MUID:73201971; PMID:4712450
A;Accession: A90054
A;Molecule type: protein
A;Residues: 27-217 <LIC>
A;Cross-references: UNIPARC:UPI0000173477
A;Experimental source: placenta
R;Niall, H.D.
in Prolactin and Carcinogenesis, Proc. Fourth Tenovus Workshop Prolactin, Griffiths, K.,
A;Title: The chemistry of the human lactogenic hormones.
A;Reference number: A94427
A;Accession: A94427
A;Molecule type: protein
A;Residues: 27-217 <NIA>
A;Cross-references: UNIPARC:UPI0000173477
A;Experimental source: placenta
R;Nic A Bhaird, N.; Tipton, K.F.
Biochem. Soc. Trans. 19, 20S, 1991
A;Title: Catechol-O-methyltransferase from human placenta: purification and some propert
A;Reference number: A61283; MUID:91244006; PMID:2037148
A;Accession: A61283
A;Molecule type: protein
A;Residues: 27-46 <NIC>
A;Cross-references: UNIPARC:UPI0000173478
A;Note: choriomammotropin apparently copurified with placental catechol-O-methyltransfer
R;Sherwood, L.M.; Handwerger, S.; McLaurin, W.D.; Lanner, M.
Nature New Biol. 233, 59-61, 1971
A;Title: Amino-acid sequence of human placental lactogen.
A;Reference number: A93401; MUID:72016313; PMID:5286363
A;Contents: annotation
R;Sherwood, L.M.; Handwerger, S.; McLaurin, W.D.; Lanner, M.
Nature New Biol. 235, 64, 1972
A;Reference number: A93405
A;Contents: annotation
R;Schneider, A.B.; Kowalski, K.; Russell, J.; Sherwood, L.M.
J. Biol. Chem. 254, 3782-3787, 1979
A;Title: Identification of the interchain disulfide bonds of dimeric human placental lact
A;Reference number: A92251; MUID:79173081; PMID:438159
A;Contents: annotation; dimeric disulfide bonds
R;Selby, M.J.; Barta, A.; Baxter, J.D.; Bell, G.I.; Eberhardt, N.L.
J. Biol. Chem. 259, 13131-13138, 1984
A;Title: Analysis of a major human chorionic somatomammotropin gene. Evidence for two fur
A;Reference number: I55229; MUID:85030426; PMID:6208192
A;Accession: I55229
A;Status: translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-217 <RES>
A;Cross-references: UNIPARC:UPI0000000C48; GB:K02401; NID:g181120; PIDN:AAA52115.1; PID:g
R;Seeburg, P.H.; Shine, J.; Martial, J.A.; Ullrich, A.; Goodman, H.
Trans. Assoc. Am. Physicians 90, 109-116, 1977
A;Title: Nucleotide sequence of a human gene coding for a polypeptide hormone.
A;Reference number: I59658; MUID:78160787; PMID:611657
A;Accession: I59658
A;Status: translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 160-217 <RE2>
A;Cross-references: UNIPARC:UPI000016A74D; GB:M25118; NID:g181124; PIDN:AAA35721.1; PID:g
C;Genetics:
A;Gene: GDB:CSH1
A;Cross-references: GDB:119084; OMIM:150200
A;Map position: 17q22-17q24
A;Introns: 4/1; 57/3; 97/3; 152/3
C;Superfamily: prolactin
C;Keywords: hormone; placenta
F;1-26/Domain: signal sequence #status experimental <SIG>
F;27-217/Product: choriomammotropin A #status experimental <MAT>
F;79-191/Disulfide bonds: #status experimental
F;208-215/Disulfide bonds: (in monomeric form) #status experimental
F;208/Disulfide bonds: interchain (to 215 in dimeric form) #status experimental
F;215/Disulfide bonds: interchain (to 208 in dimeric form) #status experimental

Query Match 80.6%; Score 548; DB 1; Length 217;
Best Local Similarity 82.3%; Pred. No. 1.5e-45;
Matches 107; Conservative 11; Mismatches 12; Indels 0; Gaps 0;

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Qy          4 TIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPTPS 63
              |:|||||||:|||:||| |||| |||||||| ||||:|||||| : |||  ||:||||||
Db         29 TVPLSRLFDHAMLQAHRAHQLAIDTYQEFEETYIPKDQKYSFLHDSQTSFCFSDSIPTPS 88

Qy         64 NREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEGIQ 123
              | |||||||||||||||||:||||||:||||:|||:|||  |||: | ||||||||||
Db         89 NMEETQQKSNLELLRISLLLIESWLEPVRFLRSMFANNLVYDTSDSDDYHLLKDLEEGIQ 148

Qy        124 TLMGRLEDGS 133
              ||||||||||
Db        149 TLMGRLEDGS 158
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RESULT 10
E32435
choriomammotropin B precursor - human
N;Alternate names: chorionic somatomammotropin 2
C;Species: Homo sapiens (man)
C;Date: 29-Dec-1989 #sequence_revision 29-Dec-1989 #text_change 09-Jul-2004
C;Accession: E32435
R;Chen, E.Y.; Liao, Y.C.; Smith, D.H.; Barrera-Saldana, H.A.; Gelinas, R.E.; Seeburg, P.H
Genomics 4, 479-497, 1989
A;Title: The human growth hormone locus: nucleotide sequence, biology, and evolution.
A;Reference number: A32435; MUID:89307277; PMID:2744760
A;Accession: E32435
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-217 <CHE>
A;Cross-references: UNIPROT:Q14407; UNIPARC:UPI0000073C6A; GB:J03071; NID:g183148; PIDN:A
C;Genetics:
A;Gene: GDB:CSH2
A;Cross-references: GDB:119813; OMIM:118820
A;Map position: 17q22-17q24

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C;Superfamily: prolactin

  Query Match            80.6%;  Score 548;  DB 2;  Length 217;
  Best Local Similarity  82.3%;  Pred. No. 1.5e-45;
  Matches  107;  Conservative   11;  Mismatches   12;  Indels    0;  Gaps    0;

Qy          4 TIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPTPS 63
              |:|||||||:|||:||| |||| |||||||| ||||:|||||| : |||  ||:|||||| 
Db         29 TVPLSRLFDHAMLQAHRAHQLAIDTYQEFEETYIPKDQKYSFLHDSQTSFCFSDSIPTPS 88

Qy         64 NREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEGIQ 123
              | ||||||||||||||||||:||||||:||||:|||:|||  |||: | ||||||||||
Db         89 NMEETQQKSNLELLRISLLLIESWLEPVRFLRSMFANNLVYDTSDSDDYHLLKDLEEGIQ 148

Qy        124 TLMGRLEDGS 133
              ||||||||||
Db        149 TLMGRLEDGS 158


RESULT 11
A26449
choriomammotropin precursor (allele hCS-3) - human
C;Species: Homo sapiens (man)
C;Date: 30-Jun-1988 #sequence_revision 30-Jun-1988 #text_change 09-Jul-2004
C;Accession: A26449
R;Hirt, H.; Kimelman, J.; Birnbaum, M.J.; Chen, E.Y.; Seeburg, P.H.; Eberhardt, N.L.; Ba
DNA 6, 59-70, 1987
A;Title: The human growth hormone gene locus: structure, evolution, and allelic variatic
A;Reference number: A26449; MUID:87161235; PMID:3030680
A;Accession: A26449
A;Molecule type: DNA
A;Residues: 1-215 <HIR>
A;Cross-references: UNIPROT:P01243; UNIPARC:UPI00001765E0
C;Superfamily: prolactin
F;1-26/Domain: signal sequence #status predicted <SIG>
F;27-215/Product: choriomammotropin, hCS-3 allele #status predicted <MAT>

  Query Match            76.0%;  Score 517;  DB 2;  Length 215;
  Best Local Similarity  80.0%;  Pred. No. 1.5e-42;
  Matches  104;  Conservative   12;  Mismatches   12;  Indels    2;  Gaps    2;

Qy          4 TIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPTPS 63
              |:|||||||:|||:||| |||| |||||||| ||||:|||||| : |||  ||:|||||| 
Db         29 TVPLSRLFDHAMLQAHRAHQLAIDTYQEFEETYIPKDQKYSFLHDSQTSFCFSDSIPTPS 88

Qy         64 NREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEGIQ 123
              | |||||||||||||: ||||:|||||  :||||:|||:|||  |||: | ||||||||||
Db         89 NMEETQQKSNLELLRL-LLLIESWLEP-RFLRSMFANNLVYDTSDSDDYHLLKDLEEGIQ 146

Qy        124 TLMGRLEDGS 133
              ||||||||||
Db        147 TLMGRLEDGS 156


RESULT 12
B49159
somatotropin - golden hamster
N;Alternate names: growth hormone
C;Species: Mesocricetus auratus (golden hamster)
C;Date: 19-Dec-1993 #sequence_revision 18-Nov-1994 #text_change 09-Jul-2004
C;Accession: B49159
R;Southard, J.N.; Sanchez-Jimenez, F.; Campbell, G.T.; Talamantes, F.
Endocrinology 129, 2965-2971, 1991
A;Title: Sequence and expression of hamster prolactin and growth hormone messenger RNAs.
A;Reference number: A49159; MUID:92063850; PMID:1954881
A;Accession: B49159
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-216 <SOU>
A;Cross-references: UNIPROT:P37886; UNIPARC:UPI0000135CAC; GB:S66299; NID:g239355; PIDN:
A;Note: sequence extracted from NCBI backbone (NCBIN:66299, NCBIP:66300)
C;Superfamily: prolactin

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Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
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Db         27 FPAMPLSSLFANAVLRAQHLHQLAADTYKEFERAYIPEGQRYS-IQNAQTAFCFSETIPA 85

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
              |: :|| ||:|::|||| ||||||||| |||||  :| |||::| ||  ||: |||||||
Db         86 PTGKEEAQQRSDMELLRFSLLLIQSWLGPVQFLSRIFTNSLMFGTSD-RVYEKLKDLEEG 144

Qy        122 IQTLMGRLEDGSP 134
              || ||  ||||||
Db        145 IQALMQELEDGSP 157


RESULT 13
PN0140
somatotropin - sei whale
N;Alternate names: growth hormone
C;Species: Balaenoptera borealis (sei whale)
C;Date: 07-May-1993 #sequence_revision 07-May-1993 #text_change 09-Jul-2004
C;Accession: PN0140
R;Yudaev, N.A.; Pankov, Y.A.; Bulatov, A.A.; Osipova, T.A.
Biokhimiia 47, 1059-1069, 1982
A;Title: Amino acid sequence of seiwhale somatotropin.
A;Reference number: PN0140; MUID:83000569; PMID:7115813
A;Accession: PN0140
A;Molecule type: protein
A;Residues: 1-190 <YUD>
A;Cross-references: UNIPROT:P33092; UNIPARC:UPI0000135C91
A;Note: article in Russian with English abstract
C;Superfamily: prolactin
C;Keywords: growth factor; hormone
F;52-163,180-188/Disulfide bonds: #status predicted

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Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
              || :||| || ||:|||  ||:|| |||:||| |||: |:| |||| |::  ||| |||
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Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
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Db         60 PANKDEAQQRSDVELLRFSLLLIQSWLGPVQFLEKAYANELVFGTSD-RVYEKLKDLEEG 118

Qy        122 IQTLMGRLEDGSP 134
              || ||  ||||||
Db        119 IQALMRELEDGSP 131


RESULT 14
JK0219
somatotropin - African elephant
N;Alternate names: growth hormone
C;Species: Loxodonta africana (African elephant)
C;Date: 03-Aug-1992 #sequence_revision 03-Aug-1992 #text_change 09-Jul-2004
C;Accession: JK0219
R;Hulmes, J.D.; Miedel, M.C.; Li, C.H.; Pan, Y.C.E.
Int. J. Pept. Protein Res. 33, 368-372, 1989
A;Title: Primary structure of elephant growth hormone.
A;Reference number: JK0219
A;Accession: JK0219
A;Molecule type: protein
A;Residues: 1-190 <HUL>
A;Cross-references: UNIPROT:P20392; UNIPARC:UPI0000135CAA
A;Experimental source: pituitary gland
C;Superfamily: prolactin
F;1-190/Product: somatotropin #status experimental <MAT>
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Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
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Db         60 PTGKDEAQQRSDVELLRFSLLLIQSWLGPVQFLSRVFTNSLVFGTSD-RVYEKLKDLEEG 118

Qy        122 IQTLMGRLEDGSP 134
              || ||  ||||||
Db        119 IQALMRELEDGSP 131


RESULT 15
STPG
somatotropin precursor - pig
N;Alternate names: growth hormone
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 30-Jun-1992 #sequence_revision 30-Jun-1992 #text_change 09-Jul-2004
C;Accession: JW0015; S09015; I46584; I46585; PC1063; A01516; A94594
R;Vize, P.D.; Wells, J.R.E.
Gene 55, 339-344, 1987
A;Title: Isolation and characterization of the porcine growth hormone gene.
A;Reference number: JW0015; MUID:88030700; PMID:3666458
A;Accession: JW0015
A;Molecule type: DNA
A;Residues: 1-216 <VIZ>
A;Cross-references: UNIPROT:P01248; UNIPARC:UPI000002BAC4; GB:M17704; NID:g164475; PIDN:
R;Kato, Y.; Shimokawa, N.; Kato, T.; Hirai, T.; Yoshihama, K.; Kawai, H.; Hattori, M.A.;
Biochim. Biophys. Acta 1048, 290-293, 1990
A;Title: Porcine growth hormone: molecular cloning of cDNA and expression in bacterial a
A;Reference number: S09015; MUID:90212663; PMID:2182128
A;Accession: S09015
A;Molecule type: mRNA
A;Residues: 1-216 <KAT>
A;Cross-references: UNIPARC:UPI000002BAC4; GB:X53325; NID:g288361; PIDN:CAA37411.1; PID:
R;Seeburg, P.H.; Sias, S.; Adelman, J.P.; de Boer, H.A.; Hayflick, J.; Jhurani, P.; Goed
DNA 2, 37-45, 1983
A;Title: Efficient bacterial expression of bovine and porcine growth hormones.
A;Reference number: I45898; MUID:83209123; PMID:6303731
A;Accession: I46584
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 7-8,'V',10-21,'Q',23-216 <SEE>
A;Cross-references: UNIPARC:UPI00001422D1; GB:M27326; NID:g164477; PIDN:AAA31045.1; PID:
R;Su, T.
Gene 69, 81-89, 1988
A;Title: A multisite-directed mutagenesis using T7 DNA polymerase: application for recon
A;Reference number: I46585; MUID:89137997; PMID:3224824
A;Accession: I46585
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-8,'V',10-21,'Q',23-42 <SUX>
A;Cross-references: UNIPARC:UPI00000884D5; GB:M22761; NID:g164479; PIDN:AAA31046.1; PID:
R;Yang, Q.; Zhu, B.L.; Zhou, S.W.; Qi, S.Z.
Chinese J. Biotechnol. 8, 318-323, 1992
A;Title: Cloning and partly sequencing of the porcine growth hormone (pGH) gene from pit
A;Reference number: PC1063
A;Accession: PC1063
A;Molecule type: mRNA
A;Residues: 97-108,'E',110-158 <YAN>
A;Cross-references: UNIPARC:UPI0000017347C
A;Experimental source: pituitary
R;Mills, J.B.; Howard, S.C.; Scapa, S.; Wilhelmi, A.E.
J. Biol. Chem. 245, 3407-3415, 1970
A;Title: Cyanogen bromide cleavage and partial amino acid sequence of porcine growth hor
A;Reference number: A01516; MUID:70293161; PMID:4918150
A;Accession: A01516
A;Molecule type: protein
A;Residues: 27-30;149-194,'N',196-216 <MIL>
A;Cross-references: UNIPARC:UPI000017347D; UNIPARC:UPI000017347E
R;Mills, J.B.
submitted to the Atlas, May 1971
A;Reference number: A94594
A;Accession: A94594
A;Molecule type: protein
A;Residues: 140-148 <MI2>
A;Cross-references: UNIPARC:UPI000017347F
C;Genetics:
A;Gene: gh
A;Introns: 4/1; 57/3; 96/3; 150/3
C;Superfamily: prolactin
C;Keywords: anterior pituitary; growth factor; hormone
F;1-26/Domain: signal sequence #status predicted <SIG>
F;27-216/Product: somatotropin #status predicted <MAT>
F;78-189/Disulfide bonds: #status predicted
F;206-214/Disulfide bonds: #status experimental

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Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
              || :||| || ||:|||  ||||| |||:||| ||||: |:|| :|| | :  |||:||
Db         27 FPAMPLSSLFANAVLRAQHLHQLAADTYKEFERAYIPEGQRYS-IQNAQAAFCFSETIPA 85

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
              |: ::| ||:|::|||| ||||||||| |||||  || ||||:| ||  ||: |||||||
Db         86 PTGKDEAQQRSDVELLRFSLLLIQSWLGPVQFLSRVFTNSLVFGTSD-RVYEKLKDLEEG 144

Qy        122 IQTLMGRLEDGSP 134
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Db        145 IQALMRELEDGSP 157


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Job time : 40 secs
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GenCore version 5.1.8
Copyright (c) 1993 - 2006 Biocceleration Ltd.

OM protein - protein search, using sw model

Run on: May 11, 2006, 11:54:38 ; Search time 228 Seconds
(without alignments)
414.653 Million cell updates/sec

Title: US-10-714-067-24
Perfect score: 680
Sequence: 1 MFPTIPLSRLFDNAMLRAHR.....LKDLEEGIQTLMGRLEDGSP 134

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 2166443 seqs, 705528306 residues

Total number of hits satisfying chosen parameters: 2166443

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : UniProt_05.80:*
1: uniprot_sprot:*
2: uniprot_trembl:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	670	98.5	217	1	SOMA_HUMAN	P01241 homo sapien
2	670	98.5	217	1	SOMA_PANTR	P58756 pan troglod
3	670	98.5	217	2	Q5EB53_HUMAN	Q5eb53 homo sapien
4	666	97.9	217	2	Q6IYF1_HUMAN	Q6iyf1 homo sapien
5	662	97.4	217	2	Q6IYF0_HUMAN	Q6iyf0 homo sapien
6	661	97.2	217	2	Q4VUJ1_PYGRO	Q4vuj1 pygathrix r
7	660	97.1	217	2	Q4VUK0_HYLLE	Q4vuk0 hylobates l
8	656	96.5	217	2	Q4VUJ4_PYGNE	Q4vuj4 pygathrix n
9	656	96.5	217	2	Q4VUJ3_PYGNE	Q4vuj3 pygathrix n
10	655	96.3	217	2	Q4VUK1_HYLLE	Q4vuk1 hylobates l
11	645	94.9	217	1	SOMA_MACMU	P33093 macaca mula
12	627	92.2	217	2	Q4VUJ6_HYLLE	Q4vuj6 hylobates l
13	624	91.8	217	2	Q8WNE0_ATEGE	Q8wne0 ateles geof
14	621	91.3	217	1	SOMA_CALJA	Q9gmb3 callithrix
15	611	89.9	217	1	SOM2_PANTR	P58757 pan troglod
16	608	89.4	217	1	SOMA_SAIBB	P58343 saimiri bol
17	604	88.8	217	2	Q6FH54_HUMAN	Q6fh54 homo sapien
18	603	88.7	217	1	SOM2_HUMAN	P01242 homo sapien
19	598	87.9	217	2	Q6FH32_HUMAN	Q6fh32 homo sapien
20	570	83.8	245	2	O14644_HUMAN	O14644 homo sapien
21	566	83.2	184	2	Q866T9_PANTR	Q866t9 pan troglod
22	565	83.1	217	2	Q4VUJ0_PYGRO	Q4vuj0 pygathrix r
23	561	82.5	217	2	Q4VUI5_MACAS	Q4vui5 macaca assa
24	558	82.1	217	2	Q07369_MACMU	Q07369 macaca mula
25	556	81.8	217	2	Q866U1_PANTR	Q866u1 pan troglod
26	556	81.8	217	2	Q4VUJ5_PYGNE	Q4vuj5 pygathrix n
27	555	81.6	217	2	Q4VUJ9_HYLLE	Q4vuj9 hylobates l
28	553	81.3	217	2	Q4VUJ8_HYLLE	Q4vuj8 hylobates l
29	551	81.0	217	2	Q4VUI6_MACAS	Q4vui6 macaca assa
30	550	80.9	212	2	Q07368_MACMU	Q07368 macaca mula
31	550	80.9	217	2	Q07367_MACMU	Q07367 macaca mula
32	550	80.9	217	2	Q4VUI9_PYGRO	Q4vui9 pygathrix r
33	549	80.7	217	2	Q4VUI8_PYGRO	Q4vui8 pygathrix r
34	548	80.6	217	1	CSH_HUMAN	P01243 homo sapien
35	548	80.6	217	2	Q6PF11_HUMAN	Q6pf11 homo sapien
36	547	80.4	217	2	Q4VUJ2_PYGNE	Q4vuj2 pygathrix n
37	546	80.3	217	2	Q4VUI7_MACAS	Q4vui7 macaca assa
38	544	80.0	217	2	Q866T8_PANTR	Q866t8 pan troglod
39	543	79.9	217	2	Q4VUI4_MACAS	Q4vui4 macaca assa
40	537	79.0	217	2	Q866U0_PANTR	Q866u0 pan troglod
41	535.5	78.8	216	2	Q4VUJ7_HYLLE	Q4vuj7 hylobates l
42	535	78.7	217	1	SOM2_MACMU	Q07370 macaca mula
43	517.5	76.1	202	2	O14643_HUMAN	O14643 homo sapien
44	466	68.5	217	2	Q8WND9_ATEGE	Q8wnd9 ateles geof
45	452	66.5	167	2	P78451_HUMAN	P78451 homo sapien

ALIGNMENTS

RESULT 1
SOMA_HUMAN
ID SOMA_HUMAN STANDARD; PRT; 217 AA.
AC P01241; Q14405; Q16631; Q9HBZ1; Q9UMJ7; Q9UNL5;
DT 21-JUL-1986 (Rel. 01, Created)
DT 01-MAR-1992 (Rel. 21, Last sequence update)
DT 13-SEP-2005 (Rel. 48, Last annotation update)
DE Somatotropin precursor (Growth hormone) (GH) (GH-N) (Pituitary growth
DE hormone) (Growth hormone 1).
GN Name=GH1;
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;
OC Homo.
OX NCBI_TaxID=9606;
RN [1]
RP NUCLEOTIDE SEQUENCE (ISOFORM 1).
RX MEDLINE=80034477; PubMed=386281;
RA Roskam W., Rougeon F.;
RT "Molecular cloning and nucleotide sequence of the human growth hormone
RT structural gene.";
RL Nucleic Acids Res. 7:305-320(1979).
RN [2]
RP NUCLEOTIDE SEQUENCE (ISOFORM 1).
RX MEDLINE=79203293; PubMed=377496;
RA Martial J.A., Hallewell R.A., Baxter J.D., Goodman H.M.;
RT "Human growth hormone: complementary DNA cloning and expression in
RT bacteria.";
RL Science 205:602-607(1979).
RN [3]
RP NUCLEOTIDE SEQUENCE (ISOFORM 1), AND POSSIBLE ALTERNATIVE SPLICING.
RX MEDLINE=82014939; PubMed=6269091;
RA Denoto F.M., Moore D.D., Goodman H.M.;
RT "Human growth hormone DNA sequence and mRNA structure: possible
RT alternative splicing.";
RL Nucleic Acids Res. 9:3719-3730(1981).
RN [4]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=83182010; PubMed=7169009;
RA Seeburg P.H.;
RT "The human growth hormone gene family: nucleotide sequences show
RT recent divergence and predict a new polypeptide hormone.";
RL DNA 1:239-249(1982).
RN [5]
RP NUCLEOTIDE SEQUENCE.
RX MEDLINE=89307277; PubMed=2744760;
RA Chen E.Y., Liao Y.C., Smith D.H., Barrera-Saldana H.A., Gelinas R.E.,
RA Seeburg P.H.;
RT "The human growth hormone locus: nucleotide sequence, biology, and
RT evolution.";
RL Genomics 4:479-497(1989).
RN [6]
RP NUCLEOTIDE SEQUENCE (ISOFORM 3).
RC TISSUE=Pituitary;

RA Gu J., Huang Q.-H., Li N., Xu S.-H., Han Z.-G., Fu G., Chen Z.;
RT "A novel gene expressed in human pituitary.";
RL Submitted (SEP-1999) to the EMBL/GenBank/DDBJ databases.
RN [7]
RP NUCLEOTIDE SEQUENCE [LARGE SCALE MRNA] (ISOFORM 4).
RC TISSUE=Pituitary;
RX MEDLINE=20402571; PubMed=10931946; DOI=10.1073/pnas.160270997;
RA Hu R.-M., Han Z.-G., Song H.-D., Peng Y.-D., Huang Q.-H., Ren S.-X.,
RA Gu Y.-J., Huang C.-H., Li Y.-B., Jiang C.-L., Fu G., Zhang Q.-H.,
RA Gu B.-W., Dai M., Mao Y.-F., Gao G.-F., Rong R., Ye M., Zhou J.,
RA Xu S.-H., Gu J., Shi J.-X., Jin W.-R., Zhang C.-K., Wu T.-M.,
RA Huang G.-Y., Chen Z., Chen M.-D., Chen J.-L.;
RT "Gene expression profiling in the human hypothalamus-pituitary-adrenal
RT axis and full-length cDNA cloning.";
RL Proc. Natl. Acad. Sci. U.S.A. 97:9543-9548(2000).
RN [8]
RP NUCLEOTIDE SEQUENCE [LARGE SCALE MRNA] (ISOFORMS 1 AND 2).
RC TISSUE=Pituitary;
RX MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
RA Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
RT "Generation and initial analysis of more than 15,000 full-length human
RT and mouse cDNA sequences.";
RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
RN [9]
RP NUCLEOTIDE SEQUENCE OF 1-26.
RX MEDLINE=86137393; PubMed=3912261; DOI=10.1016/0378-1119(85)90319-1;
RA Gray G.L., Baldridge J.S., McKeown K.S., Heyneker H.L., Chang C.N.;
RT "Periplasmic production of correctly processed human growth hormone in
RT Escherichia coli: natural and bacterial signal sequences are
RT interchangeable.";
RL Gene 39:247-254(1985).
RN [10]
RP PROTEIN SEQUENCE OF 27-217.
RX MEDLINE=69289202; PubMed=5810834;
RA Li C.H., Dixon J.S., Liu W.-K.;
RT "Human pituitary growth hormone. XIX. The primary structure of the
RT hormone.";
RL Arch. Biochem. Biophys. 133:70-91(1969).
RN [11]
RP PROTEIN SEQUENCE OF 27-217, AND SEQUENCE REVISION.
RX MEDLINE=72143935; PubMed=5144027;
RA Li C.H., Dixon J.S.;
RT "Human pituitary growth hormone. 32. The primary structure of the
RT hormone: revision.";
RL Arch. Biochem. Biophys. 146:233-236(1971).
RN [12]
RP SEQUENCE REVISION.
RX MEDLINE=73092028; PubMed=4675454;
RA Bewley T.A., Dixon J.S., Li C.H.;
RT "Sequence comparison of human pituitary growth hormone, human
RT chorionic somatomammotropin, and ovine pituitary growth and lactogenic
RT hormones.";
RL Int. J. Pept. Protein Res. 4:281-287(1972).
RN [13]
RP PROTEIN SEQUENCE OF 27-61 AND 102-124.
RX MEDLINE=71139765; PubMed=5279046;
RA Niall H.D.;
RT "Revised primary structure for human growth hormone.";
RL Nature New Biol. 230:90-91(1971).
RN [14]
RP SEQUENCE REVISION TO 119-120 AND 157-159.
RX MEDLINE=71153968; PubMed=5279528;
RA Niall H.D., Hogan M.L., Sauer R., Rosenblum I.Y., Greenwood F.C.;
RT "Sequences of pituitary and placental lactogenic and growth hormones:
RT evolution from a primordial peptide by gene reduplication.";
RL Proc. Natl. Acad. Sci. U.S.A. 68:866-869(1971).
RN [15]
RP SEQUENCE REVISION.
RA Niall H.D.;
RT "The chemistry of the human lactogenic hormones.";
RL (In) Griffiths K. (eds.);
RL Prolactin and carcinogenesis, Proc. fourth tenovus workshop prolactin,
RL pp.13-20, Alpha Omega Alpha Press, Cardiff (1972).
RN [16]
RP PROTEIN SEQUENCE OF 27-79 (ISOFORM 2).
RX MEDLINE=81117361; PubMed=7462247;
RA Chapman G.E., Rogers K.M., Brittain T., Bradshaw R.A., Bates O.J.,
RA Turner C., Cary P.D., Crane-Robinson C.;
RT "The 20,000 molecular weight variant of human growth hormone.
RT Preparation and some physical and chemical properties.";
RL J. Biol. Chem. 256:2395-2401(1981).
RN [17]
RP PROTEIN SEQUENCE OF 46-80 (ISOFORM 2).
RX MEDLINE=80130196; PubMed=7356479;
RA Lewis U.J., Bonewald L.F., Lewis L.J.;
RT "The 20,000-dalton variant of human growth hormone: location of the
RT amino acid deletions.";
RL Biochem. Biophys. Res. Commun. 92:511-516(1980).
RN [18]
RP DEAMIDATION OF GLN-163 AND ASN-178.
RX MEDLINE=82052997; PubMed=7028740;
RA Lewis U.J., Singh R.N., Bonewald L.F., Seavey B.K.;
RT "Altered proteolytic cleavage of human growth hormone as a result of
RT deamidation.";
RL J. Biol. Chem. 256:11645-11650(1981).
RN [19]
RP PHOSPHORYLATION SITES SER-132 AND SER-176.
RC TISSUE=Pituitary;
RX PubMed=14997482; DOI=10.1002/pmic.200300584;
RA Giorgianni F., Beranova-Giorgianni S., Desiderio D.M.;
RT "Identification and characterization of phosphorylated proteins in the
RT human pituitary.";
RL Proteomics 4:587-598(2004).
RN [20]
RP REVIEW.
RX MEDLINE=99321812; PubMed=10393484; DOI=10.1159/000053128;
RA Baumann G.;
RT "Growth hormone heterogeneity in human pituitary and plasma.";
RL Horm. Res. 51 Suppl. 1:2-6(1999).
RN [21]
RP 3D-STRUCTURE MODELING.
RX MEDLINE=88190073; PubMed=3447173; DOI=10.1002/prot.340020209;
RA Cohen F.E., Kuntz I.D.;
RT "Prediction of the three-dimensional structure of human growth
RT hormone.";
RL Proteins 2:162-166(1987).
RN [22]
RP X-RAY CRYSTALLOGRAPHY (2.8 ANGSTROMS).
RX MEDLINE=92196577; PubMed=1549776;
RA de Vos A.M., Ultsch M., Kossiakoff A.A.;
RT "Human growth hormone and extracellular domain of its receptor:
RT crystal structure of the complex.";
RL Science 255:306-312(1992).
RN [23]
RP X-RAY CRYSTALLOGRAPHY (2.9 ANGSTROMS).
RX MEDLINE=95075462; PubMed=7984244; DOI=10.1038/372478a0;
RA Somers W., Ultsch M., de Vos A.M., Kossiakoff A.A.;
RT "The X-ray structure of a growth hormone-prolactin receptor complex.";
RL Nature 372:478-481(1994).
RN [24]

```
RP   X-RAY CRYSTALLOGRAPHY (2.5 ANGSTROMS).
RA   Chantalat L., Chirgadze N.Y., Jones N., Korber F., Navaza J.,

  Query Match             98.5%;  Score 670;  DB 1;  Length 217;
  Best Local Similarity   99.2%;  Pred. No. 8e-56;
  Matches  132;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
              ||||||||||||||||||||||||||||||||||||||||||||||||||| |||||||
Db         27 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIPT 86

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 146

Qy        122 IQTLMGRLEDGSP 134
              |||||||||||||
Db        147 IQTLMGRLEDGSP 159


RESULT 2
SOMA_PANTR
ID   SOMA_PANTR     STANDARD;      PRT;   217 AA.
AC   P58756;
DT   28-FEB-2003 (Rel. 41, Created)
DT   28-FEB-2003 (Rel. 41, Last sequence update)
DT   10-MAY-2005 (Rel. 47, Last annotation update)
DE   Somatotropin precursor (Growth hormone) (GH) (GH-N) (Pituitary growth
DE   hormone) (Growth hormone 1).
GN   Name=GH1;
OS   Pan troglodytes (Chimpanzee).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;
OC   Pan.
OX   NCBI_TaxID=9598;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RA   Revol A., Esquivel D., Santiago D., Barrera-Saldana H.;
RT   "Independent duplication of the growth hormone gene in three
RT   Anthropoidean lineages.";
RL   Submitted (APR-2001) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Plays an important role in growth control. Its major
CC       role in stimulating body growth is to stimulate the liver and
CC       other tissues to secrete IGF-1. It stimulates both the
CC       differentiation and proliferation of myoblasts. It also stimulates
CC       amino acid uptake and protein synthesis in muscle and other
CC       tissues (By similarity).
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the somatotropin/prolactin family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; AF374232; AAL72284.1; -; Genomic_DNA.
DR   HSSP; P01241; 1HWG.
DR   SMR; P58756; 27-216.
DR   InterPro; IPR012351; Cytokine_4_hlx.
DR   InterPro; IPR001400; Somatotropin.
DR   PANTHER; PTHR11417; Somatotropin; 1.
DR   Pfam; PF00103; Hormone_1; 1.
DR   PRINTS; PR00836; SOMATOTROPIN.
DR   PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR   PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW   Hormone; Pituitary; Signal.
FT   SIGNAL        1     26       By similarity.
FT   CHAIN        27    217       Somatotropin.
FT   DISULFID     79    191       By similarity.
FT   DISULFID    208    215       By similarity.
SQ   SEQUENCE   217 AA;  24843 MW;  FEA295EDE0518674 CRC64;

  Query Match             98.5%;  Score 670;  DB 1;  Length 217;
  Best Local Similarity   99.2%;  Pred. No. 8e-56;
  Matches  132;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
              ||||||||||||||||||||||||||||||||||||||||||||||||||| |||||||
Db         27 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIPT 86

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 146

Qy        122 IQTLMGRLEDGSP 134
              |||||||||||||
Db        147 IQTLMGRLEDGSP 159


RESULT 3
Q5EB53_HUMAN
ID   Q5EB53_HUMAN PRELIMINARY;      PRT;   217 AA.
AC   Q5EB53;
DT   10-MAY-2005 (TrEMBLrel. 30, Created)
DT   10-MAY-2005 (TrEMBLrel. 30, Last sequence update)
DT   10-MAY-2005 (TrEMBLrel. 30, Last annotation update)
DE   Growth hormone 1, isoform 1.
GN   Name=GH1;
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;
OC   Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RC   TISSUE=Pituitary;
RX   MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
RA   Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
RA   Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
RA   Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
RA   Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
RA   Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
RA   Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
RA   Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
RA   Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
RA   Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
RA   Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
RA   Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
RA   Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
RA   Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
RA   Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
RA   Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
RA   Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
RA   Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
RT   "Generation and initial analysis of more than 15,000 full-length human
RT   and mouse cDNA sequences.";
RL   Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
RN   [2]
RP   NUCLEOTIDE SEQUENCE.
RC   TISSUE=Pituitary;
RA   Director MGC Project;
RL   Submitted (FEB-2005) to the EMBL/GenBank/DDBJ databases.
CC   -!- SUBCELLULAR LOCATION: Secreted (By similarity).
DR   EMBL; BC090045; AAH90045.1; -; mRNA.
DR   SMR; Q5EB53; 27-216.
DR   Ensembl; ENSG00000189162; Homo sapiens.
DR   GO; GO:0005576; C:extracellular region; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   InterPro; IPR012351; Cytokine_4_hlx.
DR   InterPro; IPR001400; Somatotropin.
DR   Pfam; PF00103; Hormone_1; 1.
DR   PRINTS; PR00836; SOMATOTROPIN.
DR   PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR   PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW   Hormone.
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SQ   SEQUENCE   217 AA;  24847 MW;  72CC15AF4ED1C51A CRC64;

  Query Match           98.5%;  Score 670;  DB 2;  Length 217;
  Best Local Similarity   99.2%;  Pred. No. 8e-56;
  Matches  132;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
              ||||||||||||||||||||||||||||||||||||||||||||||||||||| |||||||
Db         27 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIPT 86

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 146

Qy        122 IQTLMGRLEDGSP 134
              |||||||||||||
Db        147 IQTLMGRLEDGSP 159


RESULT 4
Q6IYF1_HUMAN
ID   Q6IYF1_HUMAN PRELIMINARY;      PRT;   217 AA.
AC   Q6IYF1;
DT   05-JUL-2004 (TrEMBLrel. 27, Created)
DT   05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
DT   05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
DE   Growth hormone 1 variant 1.
GN   Name=GH1;
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;
OC   Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RA   Jorge A.A.L., Arnhold I.J.P., Mendonca B.B.;
RL   Submitted (APR-2004) to the EMBL/GenBank/DDBJ databases.
CC   -!- SUBCELLULAR LOCATION: Secreted (By similarity).
DR   EMBL; AY613431; AAT11508.1; -; mRNA.
DR   HSSP; P01241; 1A22.
DR   SMR; Q6IYF1; 27-216.
DR   Ensembl; ENSG00000189162; Homo sapiens.
DR   GO; GO:0005576; C:extracellular region; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   InterPro; IPR012351; Cytokine_4_hlx.
DR   InterPro; IPR001400; Somatotropin.
DR   PANTHER; PTHR11417; Somatotropin; 1.
DR   Pfam; PF00103; Hormone_1; 1.
DR   PRINTS; PR00836; SOMATOTROPIN.
DR   PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR   PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW   Hormone.
SQ   SEQUENCE   217 AA;  24875 MW;  12DB1B92F63934D8 CRC64;

  Query Match           97.9%;  Score 666;  DB 2;  Length 217;
  Best Local Similarity   98.5%;  Pred. No. 1.9e-55;
  Matches  131;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
              |||||||||||| ||||||||||||||||||||||||||||||||||| |||||||
Db         27 FPTIPLSRLFDNVMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIPT 86

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 146

Qy        122 IQTLMGRLEDGSP 134
              |||||||||||||
Db        147 IQTLMGRLEDGSP 159


RESULT 5
Q6IYF0_HUMAN
ID   Q6IYF0_HUMAN PRELIMINARY;      PRT;   217 AA.
AC   Q6IYF0;
DT   05-JUL-2004 (TrEMBLrel. 27, Created)
DT   05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
DT   05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
DE   Growth hormone 1 variant 2.
GN   Name=GH1;
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;
OC   Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RA   Jorge A.A.L., Arnhold I.J.P., Mendonca B.B.;
RL   Submitted (APR-2004) to the EMBL/GenBank/DDBJ databases.
CC   -!- SUBCELLULAR LOCATION: Secreted (By similarity).
DR   EMBL; AY613432; AAT11509.1; -; mRNA.
DR   HSSP; P01241; 1AXI.
DR   SMR; Q6IYF0; 27-216.
DR   Ensembl; ENSG00000189162; Homo sapiens.
DR   GO; GO:0005576; C:extracellular region; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   InterPro; IPR012351; Cytokine_4_hlx.
DR   InterPro; IPR001400; Somatotropin.
DR   PANTHER; PTHR11417; Somatotropin; 1.
DR   Pfam; PF00103; Hormone_1; 1.
DR   PRINTS; PR00836; SOMATOTROPIN.
DR   PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR   PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW   Hormone.
SQ   SEQUENCE   217 AA;  24946 MW;  72D079DF52BDB51A CRC64;

  Query Match           97.4%;  Score 662;  DB 2;  Length 217;
  Best Local Similarity   98.5%;  Pred. No. 4.7e-55;
  Matches  131;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
              ||||||||||||||||||||||||||||||||||||||||||||||||||||| |||||||
Db         27 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIPT 86

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 146

Qy        122 IQTLMGRLEDGSP 134
              ||||| |||||||
Db        147 IQTLMRRLEDGSP 159


RESULT 6
Q4VUJ1_PYGRO
ID   Q4VUJ1_PYGRO PRELIMINARY;      PRT;   217 AA.
AC   Q4VUJ1;
DT   13-SEP-2005 (TrEMBLrel. 31, Created)
DT   13-SEP-2005 (TrEMBLrel. 31, Last sequence update)
DT   13-SEP-2005 (TrEMBLrel. 31, Last annotation update)
DE   Growth hormone-like protein 1.
OS   Pygathrix roxellana (Golden snub-nosed monkey).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
OC   Cercopithecidae; Colobinae; Pygathrix.
OX   NCBI_TaxID=61622;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   PubMed=15848116; DOI=10.1016/j.gene.2005.03.003;
RA   Ye C., Li Y., Shi P., Zhang Y.P.;
RT   "Molecular evolution of growth hormone gene family in old world
RT   monkeys and hominoids.";
RL   Gene 350:183-192(2005).
CC   -!- SUBCELLULAR LOCATION: Secreted (By similarity).
DR   EMBL; AY621647; AAU95549.1; -; Genomic_DNA.
DR   InterPro; IPR012351; Cytokine_4_hlx.
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DR   InterPro; IPR001400; Somatotropin.
DR   Pfam; PF00103; Hormone_1; 1.
DR   PRINTS; PR00836; SOMATOTROPIN.
DR   PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR   PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW   Hormone.
SQ   SEQUENCE   217 AA;  24861 MW;  914D585BDB20AFF5 CRC64;

  Query Match             97.2%;  Score 661;  DB 2;  Length 217;
  Best Local Similarity   97.7%;  Pred. No. 5.8e-55;
  Matches  130;  Conservative    1;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
              ||||||||||||||||||||||||||||||||||||||||||||||||||||| |||||||
Db         27 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIPT 86

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
              ||||||||||||||||||||||||||||||||||||||||||| |||:||||||||||||
Db         87 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGTSDSDVYDLLKDLEEG 146

Qy        122 IQTLMGRLEDGSP 134
              |||||||||||||
Db        147 IQTLMGRLEDGSP 159


RESULT 7
Q4VUK0_HYLLE
ID   Q4VUK0_HYLLE PRELIMINARY;      PRT;   217 AA.
AC   Q4VUK0;
DT   13-SEP-2005 (TrEMBLrel. 31, Created)
DT   13-SEP-2005 (TrEMBLrel. 31, Last sequence update)
DT   13-SEP-2005 (TrEMBLrel. 31, Last annotation update)
DE   Growth hormone-like protein 3.
OS   Hylobates leucogenys (White-cheeked gibbon).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
OC   Hylobatidae; Nomascus.
OX   NCBI_TaxID=61853;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   PubMed=15848116; DOI=10.1016/j.gene.2005.03.003;
RA   Ye C., Li Y., Shi P., Zhang Y.P.;
RT   "Molecular evolution of growth hormone gene family in old world
RT   monkeys and hominoids.";
RL   Gene 350:183-192(2005).
CC   -!- SUBCELLULAR LOCATION: Secreted (By similarity).
DR   EMBL; AY621637; AAU95540.1; -; Genomic_DNA.
DR   InterPro; IPR012351; Cytokine_4_hlx.
DR   InterPro; IPR001400; Somatotropin.
DR   Pfam; PF00103; Hormone_1; 1.
DR   PRINTS; PR00836; SOMATOTROPIN.
DR   PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR   PROSITE; PS00338; SOMATOTROPIN_2; UNKNOWN_1.
KW   Hormone.
SQ   SEQUENCE   217 AA;  24794 MW;  0C4DD104D007D82C CRC64;

  Query Match             97.1%;  Score 660;  DB 2;  Length 217;
  Best Local Similarity   97.7%;  Pred. No. 7.3e-55;
  Matches  130;  Conservative    1;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
              ||||||||||||||||||||||||||||||||||||||||||||||||||||| |||||||
Db         27 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIPT 86

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
              ||||||||||||||||||||||||||||||:|||||||||||||||||||||| |||||
Db         87 PSNREETQQKSNLELLRISLLLIQSWLEPVRFLRSVFANSLVYGASDSNVYDLLTDLEEG 146

Qy        122 IQTLMGRLEDGSP 134
              |||||||||||||
Db        147 IQTLMGRLEDGSP 159


RESULT 8
Q4VUJ4_PYGNE
ID   Q4VUJ4_PYGNE PRELIMINARY;      PRT;   217 AA.
AC   Q4VUJ4;
DT   13-SEP-2005 (TrEMBLrel. 31, Created)
DT   13-SEP-2005 (TrEMBLrel. 31, Last sequence update)
DT   13-SEP-2005 (TrEMBLrel. 31, Last annotation update)
DE   Growth hormone-like protein 2.
OS   Pygathrix nemaeus (Dove langur) (Douc langur).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
OC   Cercopithecidae; Colobinae; Pygathrix.
OX   NCBI_TaxID=54133;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   PubMed=15848116; DOI=10.1016/j.gene.2005.03.003;
RA   Ye C., Li Y., Shi P., Zhang Y.P.;
RT   "Molecular evolution of growth hormone gene family in old world
RT   monkeys and hominoids.";
RL   Gene 350:183-192(2005).
CC   -!- SUBCELLULAR LOCATION: Secreted (By similarity).
DR   EMBL; AY621643; AAU95546.1; -; Genomic_DNA.
DR   InterPro; IPR012351; Cytokine_4_hlx.
DR   InterPro; IPR001400; Somatotropin.
DR   Pfam; PF00103; Hormone_1; 1.
DR   PRINTS; PR00836; SOMATOTROPIN.
DR   PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR   PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW   Hormone.
SQ   SEQUENCE   217 AA;  25022 MW;  6308E804DA80620B CRC64;

  Query Match             96.5%;  Score 656;  DB 2;  Length 217;
  Best Local Similarity   97.0%;  Pred. No. 1.8e-54;
  Matches  129;  Conservative    1;  Mismatches    3;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
              ||||||||||||||||||||||||||||||||||||||||||||||||||||| |||||||
Db         27 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIPT 86

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
              |||||||||||||||| |||||||||||||||||||||||| |||:||||||||||||
Db         87 PSNREETQQKSNLELLRTSLLLIQSWLEPVQFLRSVFANSLVYGTSDSDVYDLLKDLEEG 146

Qy        122 IQTLMGRLEDGSP 134
              |||||||||||||
Db        147 IQTLMGRLEDGSP 159


RESULT 9
Q4VUJ3_PYGNE
ID   Q4VUJ3_PYGNE PRELIMINARY;      PRT;   217 AA.
AC   Q4VUJ3;
DT   13-SEP-2005 (TrEMBLrel. 31, Created)
DT   13-SEP-2005 (TrEMBLrel. 31, Last sequence update)
DT   13-SEP-2005 (TrEMBLrel. 31, Last annotation update)
DE   Growth hormone-like protein 4.
OS   Pygathrix nemaeus (Dove langur) (Douc langur).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
OC   Cercopithecidae; Colobinae; Pygathrix.
OX   NCBI_TaxID=54133;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   PubMed=15848116; DOI=10.1016/j.gene.2005.03.003;
RA   Ye C., Li Y., Shi P., Zhang Y.P.;
RT   "Molecular evolution of growth hormone gene family in old world
RT   monkeys and hominoids.";
RL   Gene 350:183-192(2005).
CC   -!- SUBCELLULAR LOCATION: Secreted (By similarity).
DR   EMBL; AY621645; AAU95547.1; -; Genomic_DNA.
DR   InterPro; IPR012351; Cytokine_4_hlx.
DR   InterPro; IPR001400; Somatotropin.
DR   Pfam; PF00103; Hormone_1; 1.
```

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DR   PRINTS; PR00836; SOMATOTROPIN.
DR   PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR   PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW   Hormone.
SQ   SEQUENCE   217 AA;  24815 MW;  FA9B3EDDB10FE674 CRC64;

  Query Match             96.5%;  Score 656;  DB 2;  Length 217;
  Best Local Similarity   97.0%;  Pred. No. 1.8e-54;
  Matches  129;  Conservative    1;  Mismatches    3;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||| |||||||
Db         27 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIPT 86

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
              |||||||||||||||| |||||||||||||||||||||||| |||:|||||||||||
Db         87 PSNREETQQKSNLELLRTSLLLIQSWLEPVQFLRSVFANSLVYGTSDSDVYDLLKDLEEG 146

Qy        122 IQTLMGRLEDGSP 134
              |||||||||||||
Db        147 IQTLMGRLEDGSP 159


RESULT 10
Q4VUK1_HYLLE
ID   Q4VUK1_HYLLE PRELIMINARY;      PRT;   217 AA.
AC   Q4VUK1;
DT   13-SEP-2005 (TrEMBLrel. 31, Created)
DT   13-SEP-2005 (TrEMBLrel. 31, Last sequence update)
DT   13-SEP-2005 (TrEMBLrel. 31, Last annotation update)
DE   Growth hormone-like protein 2.
OS   Hylobates leucogenys (White-cheeked gibbon).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
OC   Hylobatidae; Nomascus.
OX   NCBI_TaxID=61853;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   PubMed=15848116; DOI=10.1016/j.gene.2005.03.003;
RA   Ye C., Li Y., Shi P., Zhang Y.P.;
RT   "Molecular evolution of growth hormone gene family in old world
RT   monkeys and hominoids.";
RL   Gene 350:183-192(2005).
CC   -!- SUBCELLULAR LOCATION: Secreted (By similarity).
DR   EMBL; AY621636; AAU95539.1; -; Genomic_DNA.
DR   InterPro; IPR012351; Cytokine_4_hlx.
DR   InterPro; IPR001400; Somatotropin.
DR   Pfam; PF00103; Hormone_1; 1.
DR   PRINTS; PR00836; SOMATOTROPIN.
DR   PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR   PROSITE; PS00338; SOMATOTROPIN_2; UNKNOWN_1.
KW   Hormone.
SQ   SEQUENCE   217 AA;  24812 MW;  6A5C124096E666DF CRC64;

  Query Match             96.3%;  Score 655;  DB 2;  Length 217;
  Best Local Similarity   97.0%;  Pred. No. 2.2e-54;
  Matches  129;  Conservative    1;  Mismatches    3;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||| |||||||
Db         27 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIPT 86

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
              |||||||||||||||| |||||||:|||||||||||||||||||| |||||
Db         87 PSNREETQQKSNLELLRISLLLTQSWLEPVRFLRSVFANSLVYGASDSNVYDLLTDLEEG 146

Qy        122 IQTLMGRLEDGSP 134
              |||||||||||||
Db        147 IQTLMGRLEDGSP 159


RESULT 11
SOMA_MACMU
ID   SOMA_MACMU     STANDARD;      PRT;   217 AA.
AC   P33093;
DT   01-OCT-1993 (Rel. 27, Created)
DT   01-OCT-1994 (Rel. 30, Last sequence update)
DT   10-MAY-2005 (Rel. 47, Last annotation update)
DE   Somatotropin precursor (Growth hormone) (GH) (GH-N) (Pituitary growth
DE   hormone) (Growth hormone 1).
GN   Name=GH1;
OS   Macaca mulatta (Rhesus macaque).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
OC   Cercopithecidae; Cercopithecinae; Macaca.
OX   NCBI_TaxID=9544;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   MEDLINE=94008724; PubMed=8404617; DOI=10.1210/en.133.4.1744;
RA   Golos T.G., Durning M., Fisher J.M., Fowler P.D.;
RT   "Cloning of four growth hormone/chorionic somatomammotropin-related
RT   complementary deoxyribonucleic acids differentially expressed during
RT   pregnancy in the rhesus monkey placenta.";
RL   Endocrinology 133:1744-1752(1993).
RN   [2]
RP   PROTEIN SEQUENCE OF 27-217.
RX   MEDLINE=86129460; PubMed=3080959;
RA   Li C.H., Chung D., Lahm H.W., Stein S.;
RT   "The primary structure of monkey pituitary growth hormone.";
RL   Arch. Biochem. Biophys. 245:287-291(1986).
CC   -!- FUNCTION: Plays an important role in growth control. Its major
CC       role in stimulating body growth is to stimulate the liver and
CC       other tissues to secrete IGF-1. It stimulates both the
CC       differentiation and proliferation of myoblasts. It also stimulates
CC       amino acid uptake and protein synthesis in muscle and other
CC       tissues.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the somatotropin/prolactin family.
CC   ----------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ----------------------------------------------------------------------
DR   EMBL; L16556; AAA18842.1; -; mRNA.
DR   PIR; I67410; I67410.
DR   HSSP; P01241; 1AXI.
DR   SMR; P33093; 27-216.
DR   InterPro; IPR012351; Cytokine_4_hlx.
DR   InterPro; IPR001400; Somatotropin.
DR   PANTHER; PTHR11417; Somatotropin; 1.
DR   Pfam; PF00103; Hormone_1; 1.
DR   PRINTS; PR00836; SOMATOTROPIN.
DR   PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR   PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW   Direct protein sequencing; Hormone; Pituitary; Signal.
FT   SIGNAL        1     26
FT   CHAIN        27    217       Somatotropin.
FT   DISULFID     79    191       By similarity.
FT   DISULFID    208    215       By similarity.
FT   CONFLICT    100    100       E -> Q (in Ref. 2).
FT   CONFLICT    179    179       N -> D (in Ref. 2).
SQ   SEQUENCE   217 AA;  24913 MW;  2C5180341EEC46D0 CRC64;

  Query Match             94.9%;  Score 645;  DB 1;  Length 217;
  Best Local Similarity   97.0%;  Pred. No. 2e-53;
  Matches  128;  Conservative    1;  Mismatches    3;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||| |||||||
Db         27 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIPT 86

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
              |||||||||||||||||||||||||||||||||||||||||||| | |:|||||||||||
Db         87 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGTSYSDVYDLLKDLEEG 146
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Qy        122 IQTLMGRLEDGS 133
              ||||||||||||
Db        147 IQTLMGRLEDGS 158


RESULT 12
Q4VUJ6_HYLLE
ID   Q4VUJ6_HYLLE PRELIMINARY;      PRT;   217 AA.
AC   Q4VUJ6;
DT   13-SEP-2005 (TrEMBLrel. 31, Created)
DT   13-SEP-2005 (TrEMBLrel. 31, Last sequence update)
DT   13-SEP-2005 (TrEMBLrel. 31, Last annotation update)
DE   Growth hormone-like protein 7.
OS   Hylobates leucogenys (White-cheeked gibbon).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
OC   Hylobatidae; Nomascus.
OX   NCBI_TaxID=61853;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RX   PubMed=15848116; DOI=10.1016/j.gene.2005.03.003;
RA   Ye C., Li Y., Shi P., Zhang Y.P.;
RT   "Molecular evolution of growth hormone gene family in old world
RT   monkeys and hominoids.";
RL   Gene 350:183-192(2005).
CC   -!- SUBCELLULAR LOCATION: Secreted (By similarity).
DR   EMBL; AY621641; AAU95544.1; -; Genomic_DNA.
DR   InterPro; IPR012351; Cytokine_4_hlx.
DR   InterPro; IPR001400; Somatotropin.
DR   Pfam; PF00103; Hormone_1; 1.
DR   PRINTS; PR00836; SOMATOTROPIN.
DR   PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR   PROSITE; PS00338; SOMATOTROPIN_2; UNKNOWN_1.
KW   Hormone.
SQ   SEQUENCE   217 AA;  24882 MW;  5EAA2D064690D6D7 CRC64;

  Query Match             92.2%;  Score 627;  DB 2;  Length 217;
  Best Local Similarity   94.0%;  Pred. No. 1e-51;
  Matches  125;  Conservative    2;  Mismatches    6;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
              |||||||||||||||||||||||||||||||||||| |||||||||||||||  |||||||
Db         27 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYILKEQKYSFLQNPQTSFCFSESIPT 86

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
              |||| :|||||||||||||||||||:||||||||||||||||  |||||||
Db         87 PSNRVKTQQKSNLELLRISLLLIQSWLEPVRFLRSVFANSLVYGASDSNVYHHLKDLEEG 146

Qy        122 IQTLMGRLEDGSP 134
              |||||||||||||
Db        147 IQTLMGRLEDGSP 159


RESULT 13
Q8WNE0_ATEGE
ID   Q8WNE0_ATEGE PRELIMINARY;      PRT;   217 AA.
AC   Q8WNE0;
DT   01-MAR-2002 (TrEMBLrel. 20, Created)
DT   01-MAR-2002 (TrEMBLrel. 20, Last sequence update)
DT   01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
DE   Growth hormone.
GN   Name=GH-N;
OS   Ateles geoffroyi (Black-handed spider monkey).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
QC   Mammalia; Eutheria; Euarchontoglires; Primates; Platyrrhini; Cebidae;
OC   Atelinae; Ateles.
OX   NCBI_TaxID=9509;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RA   Revol A., Esquivel D., Santiago D., Barrera-Saldana H.;
RL   Submitted (APR-2001) to the EMBL/GenBank/DDBJ databases.
CC   -!- SUBCELLULAR LOCATION: Secreted (By similarity).
DR   EMBL; AF374234; AAL72286.1; -; Genomic_DNA.
DR   HSSP; P01241; 1A22.
DR   SMR; Q8WNE0; 27-216.
DR   GO; GO:0005576; C:extracellular region; IEA.
DR   GO; GO:0005179; F:hormone activity; IEA.
DR   InterPro; IPR012351; Cytokine_4_hlx.
DR   InterPro; IPR001400; Somatotropin.
DR   PANTHER; PTHR11417; Somatotropin; 1.
DR   Pfam; PF00103; Hormone_1; 1.
DR   PRINTS; PR00836; SOMATOTROPIN.
DR   PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR   PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW   Hormone.
SQ   SEQUENCE   217 AA;  24894 MW;  425829FF41EEAAE6 CRC64;

  Query Match             91.8%;  Score 624;  DB 2;  Length 217;
  Best Local Similarity   91.0%;  Pred. No. 2e-51;
  Matches  121;  Conservative    7;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
              ||||||||| ||||||||||||||||||||||||||||||||||||||| |||||||
Db         27 FPTIPLSRLLDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIPT 86

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
              ||||||||||||||||||||||||| |||||||||||||:|| |||:||: |||||||
Db         87 PASKKETQQKSNLELLRISLLLIQSWFEPVQFLRSVFANSLLYGVSDSDVYEYLKDLEEG 146

Qy        122 IQTLMGRLEDGSP 134
              |||||||||||||
Db        147 IQTLMGRLEDGSP 159


RESULT 14
SOMA_CALJA
ID   SOMA_CALJA     STANDARD;      PRT;   217 AA.
AC   Q9GMB3;
DT   28-FEB-2003 (Rel. 41, Created)
DT   28-FEB-2003 (Rel. 41, Last sequence update)
DT   10-MAY-2005 (Rel. 47, Last annotation update)
DE   Somatotropin precursor (Growth hormone).
GN   Name=GH1;
OS   Callithrix jacchus (Common marmoset).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Platyrrhini;
OC   Callitrichidae; Callithrix.
OX   NCBI_TaxID=9483;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RA   Wallis O.C., Wallis M.;
RT   "Cloning and characterisation of a putative growth hormone encoding
RT   gene from the marmoset (Callithrix jacchus).";
RL   Submitted (AUG-2000) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Plays an important role in growth control. Its major
CC       role in stimulating body growth is to stimulate the liver and
CC       other tissues to secrete IGF-1. It stimulates both the
CC       differentiation and proliferation of myoblasts. It also stimulates
CC       amino acid uptake and protein synthesis in muscle and other
CC       tissues (By similarity).
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: Belongs to the somatotropin/prolactin family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; AJ297563; CAC03481.1; -; Genomic_DNA.
DR   HSSP; P01241; 1A22.
DR   SMR; Q9GMB3; 27-216.
DR   InterPro; IPR012351; Cytokine_4_hlx.
DR   InterPro; IPR001400; Somatotropin.
DR   PANTHER; PTHR11417; Somatotropin; 1.
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DR   Pfam; PF00103; Hormone_1; 1.
DR   PRINTS; PR00836; SOMATOTROPIN.
DR   PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR   PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW   Hormone; Pituitary; Signal.
FT   SIGNAL       1     26       By similarity.
FT   CHAIN       27    217       Somatotropin.
FT   DISULFID    79    191       By similarity.
FT   DISULFID   208    215       By similarity.
SQ   SEQUENCE   217 AA;  24960 MW;  E102151A12CE6192 CRC64;

  Query Match             91.3%;  Score 621;  DB 1;  Length 217;
  Best Local Similarity   90.2%;  Pred. No. 3.9e-51;
  Matches  120;  Conservative    8;  Mismatches    5;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
              ||||||||| |||||||||||||||||||||||||||||||||||||||||| |||||||
Db         27 FPTIPLSRLLDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIPT 86

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
              |::::|||||||||||||:|||||||| |||||||||||||:|| |||:||: |||||||
Db         87 PASKKETQQKSNLELLRMSLLLIQSWFEPVQFLRSVFANSLLYGVSDSDVYEYLKDLEEG 146

Qy        122 IQTLMGRLEDGSP 134
              |||||||||||||
Db        147 IQTLMGRLEDGSP 159


RESULT 15
SOM2_PANTR
ID   SOM2_PANTR     STANDARD;      PRT;   217 AA.
AC   P58757;
DT   28-FEB-2003 (Rel. 41, Created)
DT   28-FEB-2003 (Rel. 41, Last sequence update)
DT   10-MAY-2005 (Rel. 47, Last annotation update)
DE   Growth hormone variant precursor (GH-V) (Placenta-specific growth
DE   hormone) (Growth hormone 2).
GN   Name=GH2;
OS   Pan troglodytes (Chimpanzee).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini; Hominidae;
OC   Pan.
OX   NCBI_TaxID=9598;
RN   [1]
RP   NUCLEOTIDE SEQUENCE.
RA   Revol A., Esquivel D., Santiago D., Barrera-Saldana H.;
RT   "Independent duplication of the growth hormone gene in three
RT   Anthropoidean lineages.";
RL   Submitted (APR-2001) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: Plays an important role in growth control. Its major
CC       role in stimulating body growth is to stimulate the liver and
CC       other tissues to secrete IGF-1. It stimulates both the
CC       differentiation and proliferation of myoblasts. It also stimulates
CC       amino acid uptake and protein synthesis in muscle and other
CC       tissues.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- TISSUE SPECIFICITY: Expressed in the placenta.
CC   -!- SIMILARITY: Belongs to the somatotropin/prolactin family.
CC   ---------------------------------------------------------------------
CC   This Swiss-Prot entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use as long as its content is in no way modified and this statement is not
CC   removed.
CC   ---------------------------------------------------------------------
DR   EMBL; AF374233; AAL72285.1; -; Genomic_DNA.
DR   HSSP; P01241; 1A22.
DR   SMR; P58757; 27-216.
DR   InterPro; IPR012351; Cytokine_4_hlx.
DR   InterPro; IPR001400; Somatotropin.
DR   PANTHER; PTHR11417; Somatotropin; 1.
DR   Pfam; PF00103; Hormone_1; 1.
DR   PRINTS; PR00836; SOMATOTROPIN.
DR   PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR   PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW   Glycoprotein; Hormone; Placenta; Signal.
FT   SIGNAL       1     26       By similarity.
FT   CHAIN       27    217       Growth hormone variant.
FT   CARBOHYD   166    166       N-linked (GlcNAc. . .) (Potential).
FT   DISULFID    79    191       By similarity.
FT   DISULFID   208    215       By similarity.
SQ   SEQUENCE   217 AA;  24991 MW;  1592A429075677DE CRC64;

  Query Match             89.9%;  Score 611;  DB 1;  Length 217;
  Best Local Similarity   92.5%;  Pred. No. 3.5e-50;
  Matches  123;  Conservative    3;  Mismatches    7;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
              |||||||||||||||||||:|||:|||||||||| |||||||||||||| |||||||
Db         27 FPTIPLSRLFDNAMLRAHRLYQLAYDTYQEFEEAYILKEQKYSFLQNPQTSLCFSESIPT 86

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
              |||| :|||||||||||||||||||| ||||||||||||||||  |||||||
Db         87 PSNRVKTQQKSNLELLRISLLLIQSWLEPVQLLRSVFANSLVYGASDSNVYRHLKDLEEG 146

Qy        122 IQTLMGRLEDGSP 134
              ||||| |||||||
Db        147 IQTLMWRLEDGSP 159


Search completed: May 11, 2006, 12:01:35
Job time : 229 secs
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GenCore version 5.1.8
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OM protein - protein search, using sw model

Run on: May 11, 2006, 12:01:56 ; Search time 46 Seconds
(without alignments)
240.838 Million cell updates/sec

Title: US-10-714-067-24
Perfect score: 680
Sequence: 1 MFPTIPLSRLFDNAMLRAHR.....LKDLEEGIQTLMGRLEDGSP 134

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 572060 seqs, 82675679 residues

Total number of hits satisfying chosen parameters: 572060

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

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3: /cgn2_6/ptodata/1/iaa/H_COMB.pep:*
4: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
5: /cgn2_6/ptodata/1/iaa/RE_COMB.pep:*
6: /cgn2_6/ptodata/1/iaa/backfiles1.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	675	99.3	192	1	US-08-093-383-1	Sequence 1, Appli
2	670	98.5	190	2	US-09-571-024B-14	Sequence 14, Appl
3	670	98.5	191	2	US-09-284-878-5	Sequence 5, Appli
4	670	98.5	191	2	US-09-462-941-1	Sequence 1, Appli
5	670	98.5	191	2	US-09-554-451-1	Sequence 1, Appli
6	670	98.5	194	1	US-08-383-621-4	Sequence 4, Appli
7	670	98.5	194	2	US-08-459-906-4	Sequence 4, Appli
8	670	98.5	217	2	US-08-589-028-10	Sequence 10, Appl
9	670	98.5	217	2	US-08-784-582-10	Sequence 10, Appl
10	670	98.5	217	2	US-08-785-271-10	Sequence 10, Appl
11	670	98.5	217	2	US-08-759-628-11	Sequence 11, Appl
12	670	98.5	217	2	US-09-284-878-1	Sequence 1, Appli
13	670	98.5	217	2	US-09-929-918-9	Sequence 9, Appli
14	670	98.5	217	2	US-09-571-024B-1	Sequence 1, Appli
15	670	98.5	241	2	US-09-424-620B-25	Sequence 25, Appl
16	670	98.5	245	2	US-09-280-030-66	Sequence 66, Appl
17	670	98.5	274	2	US-08-784-582-71	Sequence 71, Appl
18	670	98.5	360	2	US-08-784-582-73	Sequence 73, Appl
19	670	98.5	448	2	US-09-916-229A-2	Sequence 2, Appli
20	664	97.6	191	2	US-09-465-461-1	Sequence 1, Appli
21	664	97.6	217	1	US-08-187-756C-4	Sequence 4, Appli
22	664	97.6	217	1	US-08-469-486-51	Sequence 51, Appl
23	664	97.6	217	1	US-08-469-658-51	Sequence 51, Appl
24	664	97.6	217	1	US-08-710-324A-4	Sequence 4, Appli
25	664	97.6	217	2	US-09-411-657-4	Sequence 4, Appli
26	663	97.5	344	2	US-10-048-882C-9	Sequence 9, Appli
27	663	97.5	400	2	US-09-420-819-37	Sequence 37, Appl
28	663	97.5	401	2	US-09-420-819-36	Sequence 36, Appl
29	660	97.1	191	2	US-09-554-451-3	Sequence 3, Appli
30	657	96.6	191	2	US-08-800-215C-18	Sequence 18, Appl
31	657	96.6	191	2	US-09-571-024B-4	Sequence 4, Appli
32	655	96.3	191	2	US-08-800-215C-16	Sequence 16, Appl
33	655	96.3	191	2	US-08-800-215C-20	Sequence 20, Appl
34	651	95.7	191	2	US-09-571-024B-5	Sequence 5, Appli
35	644	94.7	191	2	US-09-571-024B-6	Sequence 6, Appli
36	642	94.4	191	2	US-09-571-024B-3	Sequence 3, Appli
37	637.5	93.8	242	2	US-09-949-016-8660	Sequence 8660, Ap
38	637.5	93.8	242	2	US-09-949-016-8661	Sequence 8661, Ap
39	637.5	93.8	242	2	US-09-949-016-8662	Sequence 8662, Ap
40	637.5	93.8	242	2	US-09-949-016-8663	Sequence 8663, Ap
41	637.5	93.8	242	2	US-09-949-016-8664	Sequence 8664, Ap
42	633	93.1	198	2	US-09-949-016-8650	Sequence 8650, Ap
43	633	93.1	198	2	US-09-949-016-8651	Sequence 8651, Ap
44	633	93.1	198	2	US-09-949-016-8652	Sequence 8652, Ap
45	633	93.1	198	2	US-09-949-016-8653	Sequence 8653, Ap

ALIGNMENTS

RESULT 1
US-08-093-383-1
; Sequence 1, Application US/08093383
; Patent No. 5489529
; GENERAL INFORMATION:
; APPLICANT: DeBoer, Herman A.
; APPLICANT: Heyneker, Herbert L.
; APPLICANT: Seeburg, Peter H.
; TITLE OF INVENTION: DNA for Expression of Bovine Growth Hormone
; NUMBER OF SEQUENCES: 30
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Genentech, Inc.
; STREET: 460 Point San Bruno Blvd
; CITY: South San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94080
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: patin (Genentech)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/093,383
; FILING DATE: 14-JUL-1993
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/619827
; FILING DATE: 28-NOV-1990
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/198824
; FILING DATE: 05-APR-1988
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 06/632361
; FILING DATE: 19-JUL-1984
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 06/303687
; FILING DATE: 18-SEP-1981
; ATTORNEY/AGENT INFORMATION:
; NAME: Johnston, Sean A.
; REGISTRATION NUMBER: P35,910
; REFERENCE/DOCKET NUMBER: 46C4
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 415/225-3562
; TELEFAX: 415/952-9881
; TELEX: 910/371-7168
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 192 amino acids
; TYPE: amino acid

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;      TOPOLOGY:  linear
US-08-093-383-1

  Query Match             99.3%;  Score 675;  DB 1;  Length 192;
  Best Local Similarity   99.3%;  Pred. No. 8.8e-72;
  Matches  133;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

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Qy         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120
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Db         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120

Qy        121 GIQTLMGRLEDGSP 134
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Db        121 GIQTLMGRLEDGSP 134


RESULT 2
US-09-571-024B-14
; Sequence 14, Application US/09571024B
; Patent No. 6946265
; GENERAL INFORMATION:
;  APPLICANT: Filikov, Anton
;  APPLICANT:  Dahiyat, Bassil I.
;  TITLE OF INVENTION: NOVEL NUCLEIC ACIDS AND PROTEINS WITH GROWTH HORMONE ACTIVITY
;  FILE REFERENCE: A-67477-1/RFT/RMS/RMK
;  CURRENT APPLICATION NUMBER: US/09/571,024B
;  CURRENT FILING DATE:  2000-05-12
;  PRIOR APPLICATION NUMBER: US 60/133,784
;  PRIOR FILING DATE: 1999-05-12
;  NUMBER OF SEQ ID NOS: 14
;  SOFTWARE: PatentIn version 3.2
; SEQ ID NO 14
;   LENGTH: 190
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-571-024B-14

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Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
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Qy        122 IQTLMGRLEDGSP 134
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Db        121 IQTLMGRLEDGSP 133


RESULT 3
US-09-284-878-5
; Sequence 5, Application US/09284878
; Patent No. 6342375
; GENERAL INFORMATION:
;  APPLICANT:  Olazaran, Martha Guerrero
;  APPLICANT:  Saldana, Hugo Barrera
;  APPLICANT:  Salvado, Jose Maria Viader
;  TITLE OF INVENTION:  Genetically Modified Methylotrophic P. pastoris Yeast for the
;  TITLE OF INVENTION:  Production and Secretion of the Human Growth Hormone
;  FILE REFERENCE:  1829.0010000
;  CURRENT APPLICATION NUMBER: US/09/284,878
;  CURRENT FILING DATE:  1999-07-21
;  PRIOR APPLICATION NUMBER:  PCT/MX97/00033
;  PRIOR FILING DATE:  1997-10-24
;  NUMBER OF SEQ ID NOS:  9
;  SOFTWARE:  PatentIn Ver. 2.1
; SEQ ID NO 5
;   LENGTH: 191
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-284-878-5

  Query Match             98.5%;  Score 670;  DB 2;  Length 191;
  Best Local Similarity   99.2%;  Pred. No. 3.4e-71;
  Matches  132;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
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Db          1 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIPT 60

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
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Db         61 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 120

Qy        122 IQTLMGRLEDGSP 134
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Db        121 IQTLMGRLEDGSP 133


RESULT 4
US-09-462-941-1
; Sequence 1, Application US/09462941
; Patent No. 6608183
; GENERAL INFORMATION:
;  APPLICANT: Cox III, George N
;  APPLICANT:  Bolder Biotechnology, Inc.
;  TITLE OF INVENTION: Derivatives of Growth Hormone and Related Proteins
;  FILE REFERENCE: 4152-1-PUS
;  CURRENT APPLICATION NUMBER: US/09/462,941
;  CURRENT FILING DATE:  2000-01-14
;  PRIOR APPLICATION NUMBER: 60/052,516
;  PRIOR FILING DATE: 1997-07-14
;  NUMBER OF SEQ ID NOS: 41
;  SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 1
;   LENGTH: 191
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-462-941-1

  Query Match             98.5%;  Score 670;  DB 2;  Length 191;
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  Matches  132;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
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Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
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Qy        122 IQTLMGRLEDGSP 134
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Db        121 IQTLMGRLEDGSP 133


RESULT 5
US-09-554-451-1
; Sequence 1, Application US/09554451
; Patent No. 6680207
;  GENERAL INFORMATION:
;       APPLICANT: Jonathan Paul MURPHY
;                  Anthony ATKINSON
;       TITLE OF INVENTION: Detection of Molecules in Samples
;       NUMBER OF SEQUENCES: 9
;       CORRESPONDENCE ADDRESS:
```

```
;             ADDRESSEE: Pillsbury Winthrop, L.L.P.
;             STREET: 1100 New York Ave., N.W.
;             CITY: Washington
;             STATE: D.C.
;             COUNTRY: U.S.A.
;             ZIP: 20005
;       COMPUTER READABLE FORM:
;             MEDIUM TYPE: Diskette
;             COMPUTER: IBM PC compatible
;             OPERATING SYSTEM: PC-DOS/MS-DOS
;             SOFTWARE: MS Word
;       CURRENT APPLICATION DATA:
;             APPLICATION NUMBER: US/09/554,451
;             FILING DATE: 15-May-2000
;             CLASSIFICATION: <Unknown>
;       PRIOR APPLICATION DATA:
;             APPLICATION NUMBER: PCT/GB98/03449
;             FILING DATE: No. 6680207ember 16, 1998
;             APPLICATION NUMBER: GB 9723955.2
;             FILING DATE: No. 6680207ember 14, 1997
;   INFORMATION FOR SEQ ID NO: 1:
;       SEQUENCE CHARACTERISTICS:
;             LENGTH: 191 amino acids
;             TYPE: amino acid
;             STRANDEDNESS: single
;             TOPOLOGY: linear
;       SEQUENCE DESCRIPTION: SEQ ID NO: 1:
US-09-554-451-1

  Query Match             98.5%;  Score 670;  DB 2;  Length 191;
  Best Local Similarity   99.2%;  Pred. No. 3.4e-71;
  Matches  132;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
              ||||||||||||||||||||||||||||||||||||||||||||||||||| |||||||
Db          1 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIPT 60

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 120

Qy        122 IQTLMGRLEDGSP 134
              |||||||||||||
Db        121 IQTLMGRLEDGSP 133


RESULT 6
US-08-383-621-4
; Sequence 4, Application US/08383621
; Patent No. 5951972
;  GENERAL INFORMATION:
;    APPLICANT:  Daley, Michael J.
;    APPLICANT:  Buckwalter, Brian L.
;    APPLICANT:  Cady, Susan M.
;    APPLICANT:  Shieh, Hong-Ming
;    APPLICANT:  Bohlen, Peter
;    APPLICANT:  Seddon, Andrew P.
;    TITLE OF INVENTION:  Stabilization Of Somatotropins And Other
;    TITLE OF INVENTION:  Proteins By Modification Of Cysteine Residues
;    NUMBER OF SEQUENCES:  11
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Dr. Estelle J. Tsevdos
;      STREET:  1937 West Main Street, P.O. Box 60
;      CITY:  Stamford
;      STATE:  Connecticut
;      COUNTRY:  U.S.A.
;      ZIP:  06904-0060
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/383,621
;      FILING DATE:  06-FEB-1995
;      CLASSIFICATION:  514
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 07/766,142
;      FILING DATE:  25-SEP-1991
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Tsevdos, Estelle J.
;      REGISTRATION NUMBER:  31,145
;      REFERENCE/DOCKET NUMBER:  31,278-01
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  203-321-2756
;      TELEFAX:  203-321-2971
;      TELEX:  203-710-474-4059
;  INFORMATION FOR SEQ ID NO:  4:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  194 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-383-621-4

  Query Match             98.5%;  Score 670;  DB 1;  Length 194;
  Best Local Similarity   99.2%;  Pred. No. 3.5e-71;
  Matches  132;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
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Db          4 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIPT 63

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
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Qy        122 IQTLMGRLEDGSP 134
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Db        124 IQTLMGRLEDGSP 136


RESULT 7
US-08-459-906-4
; Sequence 4, Application US/08459906
; Patent No. 6010999
;  GENERAL INFORMATION:
;    APPLICANT:  Daley, Michael J.
;    APPLICANT:  Buckwalter, Brian L.
;    APPLICANT:  Cady, Susan M.
;    APPLICANT:  Shieh, Hong-Ming
;    APPLICANT:  Bohlen, Peter
;    APPLICANT:  Seddon, Andrew P.
;    TITLE OF INVENTION:  Stabilization of Somatotropins and Other
;    TITLE OF INVENTION:  Proteins by Modification of Cysteine Residues
;    NUMBER OF SEQUENCES:  11
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  American Cyanamid Company
;      STREET:  One Cyanamid Plaza
;      CITY:  Wayne
;      STATE:  New Jersey
;      COUNTRY:  U.S.A.
;      ZIP:  07470-8426
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/459,906
;      FILING DATE:  02-JUN-1995
;      CLASSIFICATION:  514
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Webster, Darryl L.
;      REGISTRATION NUMBER:  34,276
;      REFERENCE/DOCKET NUMBER:  31,278-03
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;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  201-831-3247
;      TELEFAX:  201-831-3305
;  INFORMATION FOR SEQ ID NO:  4:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  194 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
US-08-459-906-4

  Query Match             98.5%;  Score 670;  DB 2;  Length 194;
  Best Local Similarity   99.2%;  Pred. No. 3.5e-71;
  Matches  132;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
              ||||||||||||||||||||||||||||||||||||||||||||||||||| |||||||
Db          4 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIPT 63

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
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Db         64 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 123

Qy        122 IQTLMGRLEDGSP 134
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Db        124 IQTLMGRLEDGSP 136


RESULT 8
US-08-589-028-10
; Sequence 10, Application US/08589028
; Patent No. 6087129
;  GENERAL INFORMATION:
;    APPLICANT:  Newgard, Christopher B.
;    APPLICANT:  Halban, Philippe
;    APPLICANT:  No. 6087129mington, Karl D.
;    APPLICANT:  Clark, Samuel A.
;    APPLICANT:  Thigpen, Anice E.
;    APPLICANT:  Quaade, Christian
;    APPLICANT:  Kruse, Fred
;    TITLE OF INVENTION:  Recombinant Expression of Proteins From
;    TITLE OF INVENTION:  Secretory Cell Lines
;    NUMBER OF SEQUENCES:  50
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Arnold, White & Durkee
;      STREET:  P. O. Box 4433
;      CITY:  Houston
;      STATE:  TX
;      COUNTRY:  USA
;      ZIP:  77210-4433
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/589,028
;      FILING DATE:  Concurrently Herewith
;      CLASSIFICATION:  435
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Highlander, Steven L.
;      REGISTRATION NUMBER:  47,642
;      REFERENCE/DOCKET NUMBER:  UTSD:426\HYL
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (512) 418-3000
;      TELEFAX:  (512) 474-7577
;  INFORMATION FOR SEQ ID NO:  10:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  217 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:
;      TOPOLOGY:  linear
US-08-589-028-10

  Query Match             98.5%;  Score 670;  DB 2;  Length 217;
  Best Local Similarity   99.2%;  Pred. No. 4.1e-71;
  Matches  132;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
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Qy        122 IQTLMGRLEDGSP 134
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Db        147 IQTLMGRLEDGSP 159


RESULT 9
US-08-784-582-10
; Sequence 10, Application US/08784582
; Patent No. 6110707
;  GENERAL INFORMATION:
;    APPLICANT:  Newgard, Christopher B.
;    APPLICANT:  Halban, Philippe A.
;    APPLICANT:  No. 6110707mington, Karl D.
;    APPLICANT:  Clark, Samuel A.
;    APPLICANT:  Thigpen, Anice E.
;    APPLICANT:  Quaade, Christian
;    APPLICANT:  Kruse, Fred
;    APPLICANT:  McGarry, Dennis
;    TITLE OF INVENTION:  RECOMBINANT EXPRESSION OF PROTEINS FROM
;    TITLE OF INVENTION:  SECRETORY CELL LINES
;    NUMBER OF SEQUENCES:  79
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Arnold, White & Durkee
;      STREET:  P.O. Box 4433
;      CITY:  Houston
;      STATE:  Texas
;      COUNTRY:  USA
;      ZIP:  77210
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/784,582
;      FILING DATE:  Concurrently Herewith
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/028,427
;      FILING DATE:  15-OCT-1996
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/589,028
;      FILING DATE:  19-JAN-1996
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Highlander, Steven L.
;      REGISTRATION NUMBER:  37,642
;      REFERENCE/DOCKET NUMBER:  UTSD:514
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  512/418-3000
;      TELEFAX:  512/474-7577
;  INFORMATION FOR SEQ ID NO:  10:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  217 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:
;      TOPOLOGY:  linear
US-08-784-582-10

  Query Match             98.5%;  Score 670;  DB 2;  Length 217;
  Best Local Similarity   99.2%;  Pred. No. 4.1e-71;
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  Matches  132;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
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Db         27 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIPT 86

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         87 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 146

Qy        122 IQTLMGRLEDGSP 134
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Db        147 IQTLMGRLEDGSP 159


RESULT 10
US-08-785-271-10
; Sequence 10, Application US/08785271
; Patent No. 6194176
;  GENERAL INFORMATION:
;    APPLICANT:  Newgard, Christopher B.
;    APPLICANT:  Halban, Philippe A.
;    APPLICANT:  No. 6194176mington, Karl D.
;    APPLICANT:  Clark, Samuel A.
;    APPLICANT:  Thigpen, Anice E.
;    APPLICANT:  Quaade, Christian
;    APPLICANT:  Kruse, Fred
;    TITLE OF INVENTION:  RECOMBINANT EXPRESSION OF PROTEINS FROM
;    TITLE OF INVENTION:  SECRETORY CELL LINES
;    NUMBER OF SEQUENCES:  56
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Arnold, White & Durkee
;      STREET:  P.O. Box 4433
;      CITY:  Houston
;      STATE:  Texas
;      COUNTRY:  USA
;      ZIP:  77210
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/785,271
;      FILING DATE:  Concurrently Herewith
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/589,028
;      FILING DATE:  19-JAN-1996
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Highlander, Steven L.
;      REGISTRATION NUMBER:  37,642
;      REFERENCE/DOCKET NUMBER:  UTSD:513
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  512/418-3000
;      TELEFAX:  512/474-7577
;  INFORMATION FOR SEQ ID NO:  10:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  217 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:
;      TOPOLOGY:  linear
US-08-785-271-10

  Query Match             98.5%;  Score 670;  DB 2;  Length 217;
  Best Local Similarity   99.2%;  Pred. No. 4.1e-71;
  Matches  132;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
              ||||||||||||||||||||||||||||||||||||||||||||||||||||| |||||||
Db         27 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIPT 86

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
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Qy        122 IQTLMGRLEDGSP 134
              |||||||||||||
Db        147 IQTLMGRLEDGSP 159


RESULT 11
US-08-759-628-11
; Sequence 11, Application US/08759628
; Patent No. 6225446
;  GENERAL INFORMATION:
;    APPLICANT:  Altmann, Scott W.
;    APPLICANT:  Rock, Fernando L.
;    APPLICANT:  Bazan, J. Fernando
;    APPLICANT:  Kastelein, Robert A.
;    TITLE OF INVENTION:  MUTATIONAL VARIANTS OF MAMMLIAN PROTEINS
;    NUMBER OF SEQUENCES:  11
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  DNAX Research Institute
;      STREET:  901 California Avenue
;      CITY:  Palo Alto
;      STATE:  California
;      COUNTRY:  USA
;      ZIP:  94304-1104
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/759,628
;      FILING DATE:  05-DEC-1996
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/008,574
;      FILING DATE:  06-DEC-1995
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Ching, Edwin P.
;      REGISTRATION NUMBER:  34,090
;      REFERENCE/DOCKET NUMBER:  DX0552Q
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  415-852-9196
;      TELEFAX:  415-496-1200
;  INFORMATION FOR SEQ ID NO:  11:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  217 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  32..53
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  94..115
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;      NAME/KEY:  Peptide
;      LOCATION:  133..153
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  192..210
;      OTHER INFORMATION:  /note= "The peptides above are
;      OTHER INFORMATION:  depicted in Figure 1"
US-08-759-628-11

  Query Match             98.5%;  Score 670;  DB 2;  Length 217;
  Best Local Similarity   99.2%;  Pred. No. 4.1e-71;
  Matches  132;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
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Db         27 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIPT 86

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
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Qy        122 IQTLMGRLEDGSP 134
              |||||||||||||
Db        147 IQTLMGRLEDGSP 159


RESULT 11
US-08-759-628-11
; Sequence 11, Application US/08759628
; Patent No. 6225446
;  GENERAL INFORMATION:
;    APPLICANT:  Altmann, Scott W.
;    APPLICANT:  Rock, Fernando L.
;    APPLICANT:  Bazan, J. Fernando
;    APPLICANT:  Kastelein, Robert A.
;    TITLE OF INVENTION:  MUTATIONAL VARIANTS OF MAMMLIAN PROTEINS
;    NUMBER OF SEQUENCES:  11
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  DNAX Research Institute
;      STREET:  901 California Avenue
;      CITY:  Palo Alto
;      STATE:  California
;      COUNTRY:  USA
;      ZIP:  94304-1104
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/759,628
;      FILING DATE:  05-DEC-1996
;      CLASSIFICATION:  435
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 60/008,574
;      FILING DATE:  06-DEC-1995
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Ching, Edwin P.
;      REGISTRATION NUMBER:  34,090
;      REFERENCE/DOCKET NUMBER:  DX0552Q
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  415-852-9196
;      TELEFAX:  415-496-1200
;  INFORMATION FOR SEQ ID NO:  11:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  217 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  protein
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  32..53
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  94..115
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  133..153
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  192..210
;      OTHER INFORMATION:  /note= "The peptides above are
;      OTHER INFORMATION:  depicted in Figure 1"
US-08-759-628-11

  Query Match             98.5%;  Score 670;  DB 2;  Length 217;
  Best Local Similarity   99.2%;  Pred. No. 4.1e-71;
  Matches  132;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
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Db          27 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIPT 86

Qy          62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
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Db          87 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 146

Qy         122 IQTLMGRLEDGSP 134
               |||||||||||||
Db         147 IQTLMGRLEDGSP 159


RESULT 12
US-09-284-878-1
; Sequence 1, Application US/09284878
; Patent No. 6342375
; GENERAL INFORMATION:
;  APPLICANT:  Olazaran, Martha Guerrero
;  APPLICANT:  Saldana, Hugo Barrera
;  APPLICANT:  Salvado, Jose Maria Viader
;  TITLE OF INVENTION:  Genetically Modified Methylotrophic P. pastoris Yeast for the
;  TITLE OF INVENTION:  Production and Secretion of the Human Growth Hormone
;  FILE REFERENCE:  1829.0010000
;  CURRENT APPLICATION NUMBER: US/09/284,878
;  CURRENT FILING DATE:  1999-07-21
;  PRIOR APPLICATION NUMBER:  PCT/MX97/00033
;  PRIOR FILING DATE:  1997-10-24
;  NUMBER OF SEQ ID NOS:  9
;  SOFTWARE:  PatentIn Ver. 2.1
; SEQ ID NO 1
;   LENGTH: 217
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-284-878-1

  Query Match             98.5%;  Score 670;  DB 2;  Length 217;
  Best Local Similarity   99.2%;  Pred. No. 4.1e-71;
  Matches  132;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
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Db         27 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIPT 86

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
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Qy        122 IQTLMGRLEDGSP 134
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Db        147 IQTLMGRLEDGSP 159


RESULT 13
US-09-929-918-9
; Sequence 9, Application US/09929918
; Patent No. 6773899
; GENERAL INFORMATION:
;  APPLICANT: Kordyum, Vitaliy A.
;  APPLICANT:  Chernykh, Svitlana I.
;  APPLICANT:  Slavchenko, Iryna Yu.
;  APPLICANT:  Vozianov, Oleksandr
;  TITLE OF INVENTION: PHAGE-DEPENDENT SUPER PRODUCTION OF
;  TITLE OF INVENTION:  BIOLOGICALLY ACTIVE PROTEIN AND PEPTIDES
;  FILE REFERENCE: PHAGE.006A
;  CURRENT APPLICATION NUMBER: US/09/929,918
;  CURRENT FILING DATE:  2001-08-15
;  PRIOR APPLICATION NUMBER: 09/318,288
;  PRIOR FILING DATE: 1999-05-25
;  NUMBER OF SEQ ID NOS: 11
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 9
;   LENGTH: 217
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-929-918-9

  Query Match             98.5%;  Score 670;  DB 2;  Length 217;
  Best Local Similarity   99.2%;  Pred. No. 4.1e-71;
  Matches  132;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
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Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
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Qy        122 IQTLMGRLEDGSP 134
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Db        147 IQTLMGRLEDGSP 159


RESULT 14
US-09-571-024B-1
; Sequence 1, Application US/09571024B
; Patent No. 6946265
; GENERAL INFORMATION:
;  APPLICANT: Filikov, Anton
;  APPLICANT:  Dahiyat, Bassil I.
;  TITLE OF INVENTION: NOVEL NUCLEIC ACIDS AND PROTEINS WITH GROWTH HORMONE ACTIVITY
;  FILE REFERENCE: A-67477-1/RFT/RMS/RMK
;  CURRENT APPLICATION NUMBER: US/09/571,024B
;  CURRENT FILING DATE:  2000-05-12
;  PRIOR APPLICATION NUMBER: US 60/133,784
;  PRIOR FILING DATE: 1999-05-12
;  NUMBER OF SEQ ID NOS: 14
;  SOFTWARE: PatentIn version 3.2
; SEQ ID NO 1
;   LENGTH: 217
;   TYPE: PRT
;   ORGANISM: Homo sapiens
;   FEATURE:
;   NAME/KEY: SIGNAL
;   LOCATION: (1)..(26)
;   FEATURE:
;   NAME/KEY: mat_peptide
;   LOCATION: (27)..()
US-09-571-024B-1

  Query Match             98.5%;  Score 670;  DB 2;  Length 217;
  Best Local Similarity   99.2%;  Pred. No. 4.1e-71;
  Matches  132;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
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Db         27 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIPT 86

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
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Qy        122 IQTLMGRLEDGSP 134
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Db        147 IQTLMGRLEDGSP 159


RESULT 15
US-09-424-620B-25
; Sequence 25, Application US/09424620B
; Patent No. 6391585
;   GENERAL INFORMATION:
;        APPLICANT: HANIL SYNTHETIC FIBER CO., LTD.
;                   JANG. Ki-Ryong
;                   MOON, Jae-Woong
;                   BAE, Cheon-Soon
```

; YANG, Doo-Suk
; LEE, Jee-Won
; SEONG, Baik-Lin
; TITLE OF INVENTION: Process for preparing recombinant proteins using highly
; efficient expression vector from Sacharomyces cerevisiae
; NUMBER OF SEQUENCES: 25
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: BACHMAN & LAPOINTE, P.C.
; STREET: Suite 1201, 900 Chapel Street
; CITY: New Haven
; STATE: Connecticut
; COUNTRY: U.S.A.
; ZIP: 06510-2802
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette, 3.5 inch, 1.44 Mb storage
; COMPUTER: IBM
; OPERATING SYSTEM: WINDOWS 95/98
; SOFTWARE: MS WORD
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/424,620B
; FILING DATE: 24-No. 6391585-1999
; INFORMATION FOR SEQ ID NO: 25:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 241 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: PROTEIN
; SEQUENCE DESCRIPTION: SEQ ID NO: 25:
US-09-424-620B-25

Query Match 98.5%; Score 670; DB 2; Length 241;
Best Local Similarity 99.2%; Pred. No. 4.8e-71;
Matches 132; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

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GenCore version 5.1.8
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Title: US-10-714-067-24
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Searched: 1867569 seqs, 417829326 residues

Total number of hits satisfying chosen parameters: 1867569

Minimum DB seq length: 0
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Post-processing: Minimum Match 0%
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Listing first 45 summaries

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2: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*
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6: /cgn2_6/ptodata/1/pubpaa/US11_PUBCOMB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	680	100.0	134	3	US-09-819-094-24	Sequence 24, Appl
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3	675	99.3	188	4	US-10-621-693-18	Sequence 18, Appl
4	675	99.3	192	3	US-09-819-094-23	Sequence 23, Appl
5	675	99.3	192	4	US-10-621-693-8	Sequence 8, Appli
6	675	99.3	192	4	US-10-621-693-78	Sequence 78, Appl
7	675	99.3	192	4	US-10-621-693-86	Sequence 86, Appl
8	675	99.3	192	4	US-10-714-067-23	Sequence 23, Appl
9	675	99.3	193	4	US-10-621-693-42	Sequence 42, Appl
10	675	99.3	206	4	US-10-621-693-72	Sequence 72, Appl
11	675	99.3	213	5	US-10-908-400A-95	Sequence 95, Appl
12	675	99.3	216	5	US-10-908-400A-91	Sequence 91, Appl
13	675	99.3	216	5	US-10-908-400A-96	Sequence 96, Appl
14	675	99.3	216	5	US-10-908-400A-97	Sequence 97, Appl
15	675	99.3	216	5	US-10-908-400A-98	Sequence 98, Appl
16	675	99.3	216	5	US-10-908-400A-99	Sequence 99, Appl
17	675	99.3	216	5	US-10-908-400A-100	Sequence 100, App
18	675	99.3	216	5	US-10-908-400A-101	Sequence 101, App
19	675	99.3	216	5	US-10-908-400A-102	Sequence 102, App
20	675	99.3	216	5	US-10-908-400A-103	Sequence 103, App
21	675	99.3	222	5	US-10-908-400A-94	Sequence 94, Appl
22	675	99.3	391	4	US-10-621-693-51	Sequence 51, Appl
23	675	99.3	574	4	US-10-621-693-32	Sequence 32, Appl
24	675	99.3	576	4	US-10-621-693-39	Sequence 39, Appl
25	675	99.3	589	4	US-10-621-693-53	Sequence 53, Appl
26	675	99.3	786	4	US-10-621-693-55	Sequence 55, Appl
27	675	99.3	810	4	US-10-621-693-76	Sequence 76, Appl
28	672	98.8	794	5	US-10-775-204-1604	Sequence 1604, Ap
29	672	98.8	800	5	US-10-775-204-1303	Sequence 1303, Ap
30	670	98.5	191	4	US-10-153-207-1	Sequence 1, Appli
31	670	98.5	191	4	US-10-400-377-1	Sequence 1, Appli
32	670	98.5	191	4	US-10-400-708-1	Sequence 1, Appli
33	670	98.5	191	4	US-10-298-148-1	Sequence 1, Appli
34	670	98.5	191	4	US-10-646-798-2	Sequence 2, Appli
35	670	98.5	191	4	US-10-621-693-2	Sequence 2, Appli
36	670	98.5	191	4	US-10-621-693-21	Sequence 21, Appl
37	670	98.5	191	4	US-10-621-693-80	Sequence 80, Appl
38	670	98.5	191	4	US-10-621-693-82	Sequence 82, Appl
39	670	98.5	191	4	US-10-621-693-84	Sequence 84, Appl
40	670	98.5	191	4	US-10-658-834A-879	Sequence 879, App
41	670	98.5	191	4	US-10-658-834A-880	Sequence 880, App
42	670	98.5	191	4	US-10-658-834A-881	Sequence 881, App
43	670	98.5	191	4	US-10-658-834A-882	Sequence 882, App
44	670	98.5	191	4	US-10-658-834A-883	Sequence 883, App
45	670	98.5	191	4	US-10-658-834A-884	Sequence 884, App

ALIGNMENTS

RESULT 1
US-09-819-094-24
; Sequence 24, Application US/09819094
; Publication No. US20030186382A1
; GENERAL INFORMATION:
; APPLICANT: Weiner, Richard I.
; APPLICANT: Martial, Joseph A.
; APPLICANT: Struman, Ingrid
; APPLICANT: Taylor, Robert
; APPLICANT: Bentzien, Frauke
; TITLE OF INVENTION: No. US20030186382A1el Antiangiogenic Peptide Agents and Their
; TITLE OF INVENTION: Therapeutic and Diagnostic Use
; FILE REFERENCE: UCSF-018/02US
; CURRENT APPLICATION NUMBER: US/09/819,094
; CURRENT FILING DATE: 2001-03-27
; PRIOR APPLICATION NUMBER: 09/076,675
; PRIOR FILING DATE: 1998-05-12
; PRIOR APPLICATION NUMBER: 60/046,394
; PRIOR FILING DATE: 1997-05-12
; NUMBER OF SEQ ID NOS: 34
; SEQ ID NO 24
; LENGTH: 134
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-819-094-24

Query Match 100.0%; Score 680; DB 3; Length 134;
Best Local Similarity 100.0%; Pred. No. 2.9e-64;
Matches 134; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIP 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIP 60

Qy         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120

Qy        121 GIQTLMGRLEDGSP 134
              ||||||||||||||
Db        121 GIQTLMGRLEDGSP 134
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RESULT 2
US-10-714-067-24
; Sequence 24, Application US/10714067
; Publication No. US20040077054A1
; GENERAL INFORMATION:
; APPLICANT: Weiner, Richard I.
; APPLICANT: Martial, Joseph A.

```
;  APPLICANT:  Struman, Ingrid
;  APPLICANT:  Taylor, Robert
;  APPLICANT:  Bentzien, Frauke
;  TITLE OF INVENTION: Novel Antiangiogenic Peptide Agents and Their
;  TITLE OF INVENTION:  Therapeutic and Diagnostic Use
;  FILE REFERENCE: UCSF-018/02US
;  CURRENT APPLICATION NUMBER: US/10/714,067
;  CURRENT FILING DATE:  2003-11-14
;  PRIOR APPLICATION NUMBER: US/09/819,094
;  PRIOR FILING DATE: 2001-03-27
;  PRIOR APPLICATION NUMBER: 09/076,675
;  PRIOR FILING DATE: 1998-05-12
;  PRIOR APPLICATION NUMBER: 60/046,394
;  PRIOR FILING DATE: 1997-05-12
;  NUMBER OF SEQ ID NOS: 34
; SEQ ID NO 24
;   LENGTH: 134
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-714-067-24

  Query Match            100.0%;  Score 680;  DB 4;  Length 134;
  Best Local Similarity   100.0%;  Pred. No. 2.9e-64;
  Matches  134;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIP 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIP 60

Qy         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120

Qy        121 GIQTLMGRLEDGSP 134
              ||||||||||||||
Db        121 GIQTLMGRLEDGSP 134


RESULT 3
US-10-621-693-18
; Sequence 18, Application US/10621693
; Publication No. US20040059093A1
; GENERAL INFORMATION:
;  APPLICANT: Gentide Biopharmaceuticals, Inc.
;  APPLICANT:  Bussell, Stuart
;  TITLE OF INVENTION: METHODS TO CONSTRUCT MULTIMERIC DNA AND POLYMERIC PROTEIN SEQUENC
;  TITLE OF INVENTION:  DIRECT FUSIONS OR WITH LINKERS
;  FILE REFERENCE: GNT-00101.P.1-US
;  CURRENT APPLICATION NUMBER: US/10/621,693
;  CURRENT FILING DATE:  2003-07-16
;  PRIOR APPLICATION NUMBER: US 60/396,466
;  PRIOR FILING DATE: 2002-07-16
;  NUMBER OF SEQ ID NOS: 86
;  SOFTWARE: PatentIn version 3.0
; SEQ ID NO 18
;   LENGTH: 188
;   TYPE: PRT
;   ORGANISM: Artificial
;   FEATURE:
;   OTHER INFORMATION: synthetic sequence
US-10-621-693-18

  Query Match            99.3%;  Score 675;  DB 4;  Length 188;
  Best Local Similarity   99.3%;  Pred. No. 1.5e-63;
  Matches  133;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIP 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||| ||||||
Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIP 60

Qy         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120

Qy        121 GIQTLMGRLEDGSP 134
              ||||||||||||||
Db        121 GIQTLMGRLEDGSP 134


RESULT 4
US-09-819-094-23
; Sequence 23, Application US/09819094
; Publication No. US20030186382A1
; GENERAL INFORMATION:
;  APPLICANT: Weiner, Richard I.
;  APPLICANT:  Martial, Joseph A.
;  APPLICANT:  Struman, Ingrid
;  APPLICANT:  Taylor, Robert
;  APPLICANT:  Bentzien, Frauke
;  TITLE OF INVENTION: No. US20030186382A1el Antiangiogenic Peptide Agents and Their
;  TITLE OF INVENTION:  Therapeutic and Diagnostic Use
;  FILE REFERENCE: UCSF-018/02US
;  CURRENT APPLICATION NUMBER: US/09/819,094
;  CURRENT FILING DATE:  2001-03-27
;  PRIOR APPLICATION NUMBER: 09/076,675
;  PRIOR FILING DATE: 1998-05-12
;  PRIOR APPLICATION NUMBER: 60/046,394
;  PRIOR FILING DATE: 1997-05-12
;  NUMBER OF SEQ ID NOS: 34
; SEQ ID NO 23
;   LENGTH: 192
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-819-094-23

  Query Match            99.3%;  Score 675;  DB 3;  Length 192;
  Best Local Similarity   99.3%;  Pred. No. 1.6e-63;
  Matches  133;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIP 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||| ||||||
Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIP 60

Qy         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120

Qy        121 GIQTLMGRLEDGSP 134
              ||||||||||||||
Db        121 GIQTLMGRLEDGSP 134


RESULT 5
US-10-621-693-8
; Sequence 8, Application US/10621693
; Publication No. US20040059093A1
; GENERAL INFORMATION:
;  APPLICANT: Gentide Biopharmaceuticals, Inc.
;  APPLICANT:  Bussell, Stuart
;  TITLE OF INVENTION: METHODS TO CONSTRUCT MULTIMERIC DNA AND POLYMERIC PROTEIN SEQUENCE
;  TITLE OF INVENTION:  DIRECT FUSIONS OR WITH LINKERS
;  FILE REFERENCE: GNT-00101.P.1-US
;  CURRENT APPLICATION NUMBER: US/10/621,693
;  CURRENT FILING DATE:  2003-07-16
;  PRIOR APPLICATION NUMBER: US 60/396,466
;  PRIOR FILING DATE: 2002-07-16
;  NUMBER OF SEQ ID NOS: 86
;  SOFTWARE: PatentIn version 3.0
; SEQ ID NO 8
;   LENGTH: 192
;   TYPE: PRT
;   ORGANISM: Artificial
;   FEATURE:
;   OTHER INFORMATION: synthetic sequence
;   FEATURE:
;   NAME/KEY: mat_peptide
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;   LOCATION: (1)..()
US-10-621-693-8

  Query Match             99.3%;  Score 675;  DB 4;  Length 192;
  Best Local Similarity   99.3%;  Pred. No. 1.6e-63;
  Matches  133;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIP 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||| ||||||
Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIP 60

Qy         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120

Qy        121 GIQTLMGRLEDGSP 134
              ||||||||||||||
Db        121 GIQTLMGRLEDGSP 134


RESULT 6
US-10-621-693-78
; Sequence 78, Application US/10621693
; Publication No. US20040059093A1
; GENERAL INFORMATION:
;  APPLICANT: Gentide Biopharmaceuticals, Inc.
;  APPLICANT:  Bussell, Stuart
;  TITLE OF INVENTION: METHODS TO CONSTRUCT MULTIMERIC DNA AND POLYMERIC PROTEIN SEQUENC
;  TITLE OF INVENTION:  DIRECT FUSIONS OR WITH LINKERS
;  FILE REFERENCE: GNT-00101.P.1-US
;  CURRENT APPLICATION NUMBER: US/10/621,693
;  CURRENT FILING DATE:  2003-07-16
;  PRIOR APPLICATION NUMBER: US 60/396,466
;  PRIOR FILING DATE: 2002-07-16
;  NUMBER OF SEQ ID NOS: 86
;  SOFTWARE: PatentIn version 3.0
; SEQ ID NO 78
;   LENGTH: 192
;   TYPE: PRT
;   ORGANISM: Artificial
;   FEATURE:
;   OTHER INFORMATION: synthetic sequence
US-10-621-693-78

  Query Match             99.3%;  Score 675;  DB 4;  Length 192;
  Best Local Similarity   99.3%;  Pred. No. 1.6e-63;
  Matches  133;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIP 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||| ||||||
Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIP 60

Qy         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120

Qy        121 GIQTLMGRLEDGSP 134
              ||||||||||||||
Db        121 GIQTLMGRLEDGSP 134


RESULT 7
US-10-621-693-86
; Sequence 86, Application US/10621693
; Publication No. US20040059093A1
; GENERAL INFORMATION:
;  APPLICANT: Gentide Biopharmaceuticals, Inc.
;  APPLICANT:  Bussell, Stuart
;  TITLE OF INVENTION: METHODS TO CONSTRUCT MULTIMERIC DNA AND POLYMERIC PROTEIN SEQUENC
;  TITLE OF INVENTION:  DIRECT FUSIONS OR WITH LINKERS
;  FILE REFERENCE: GNT-00101.P.1-US
;  CURRENT APPLICATION NUMBER: US/10/621,693
;  CURRENT FILING DATE:  2003-07-16
;  PRIOR APPLICATION NUMBER: US 60/396,466
;  PRIOR FILING DATE: 2002-07-16
;  NUMBER OF SEQ ID NOS: 86
;  SOFTWARE: PatentIn version 3.0
; SEQ ID NO 86
;   LENGTH: 192
;   TYPE: PRT
;   ORGANISM: Artificial
;   FEATURE:
;   OTHER INFORMATION: synthetic sequence
;   FEATURE:
;   NAME/KEY: MISC_FEATURE
;   LOCATION: (2)..(192)
;   OTHER INFORMATION: sequence is repeated N+2 times, where N is a positive whole numbe
;   FEATURE:
;   NAME/KEY: mat_peptide
;   LOCATION: (1)..()
US-10-621-693-86

  Query Match             99.3%;  Score 675;  DB 4;  Length 192;
  Best Local Similarity   99.3%;  Pred. No. 1.6e-63;
  Matches  133;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIP 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||| ||||||
Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIP 60

Qy         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120

Qy        121 GIQTLMGRLEDGSP 134
              ||||||||||||||
Db        121 GIQTLMGRLEDGSP 134


RESULT 8
US-10-714-067-23
; Sequence 23, Application US/10714067
; Publication No. US20040077054A1
; GENERAL INFORMATION:
;  APPLICANT: Weiner, Richard I.
;  APPLICANT:  Martial, Joseph A.
;  APPLICANT:  Struman, Ingrid
;  APPLICANT:  Taylor, Robert
;  APPLICANT:  Bentzien, Frauke
;  TITLE OF INVENTION: Novel Antiangiogenic Peptide Agents and Their
;  TITLE OF INVENTION:  Therapeutic and Diagnostic Use
;  FILE REFERENCE: UCSF-018/02US
;  CURRENT APPLICATION NUMBER: US/10/714,067
;  CURRENT FILING DATE:  2003-11-14
;  PRIOR APPLICATION NUMBER: US/09/819,094
;  PRIOR FILING DATE: 2001-03-27
;  PRIOR APPLICATION NUMBER: 09/076,675
;  PRIOR FILING DATE: 1998-05-12
;  PRIOR APPLICATION NUMBER: 60/046,394
;  PRIOR FILING DATE: 1997-05-12
;  NUMBER OF SEQ ID NOS: 34
; SEQ ID NO 23
;   LENGTH: 192
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-714-067-23

  Query Match             99.3%;  Score 675;  DB 4;  Length 192;
  Best Local Similarity   99.3%;  Pred. No. 1.6e-63;
  Matches  133;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIP 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||| ||||||
Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIP 60

Qy         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120
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                ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120

Qy         121 GIQTLMGRLEDGSP 134
               ||||||||||||||
Db         121 GIQTLMGRLEDGSP 134


RESULT 9
US-10-621-693-42
; Sequence 42, Application US/10621693
; Publication No. US20040059093A1
; GENERAL INFORMATION:
;  APPLICANT: Gentide Biopharmaceuticals, Inc.
;  APPLICANT:  Bussell, Stuart
;  TITLE OF INVENTION: METHODS TO CONSTRUCT MULTIMERIC DNA AND POLYMERIC PROTEIN SEQUENC
;  TITLE OF INVENTION:  DIRECT FUSIONS OR WITH LINKERS
;  FILE REFERENCE: GNT-00101.P.1-US
;  CURRENT APPLICATION NUMBER: US/10/621,693
;  CURRENT FILING DATE:  2003-07-16
;  PRIOR APPLICATION NUMBER: US 60/396,466
;  PRIOR FILING DATE: 2002-07-16
;  NUMBER OF SEQ ID NOS: 86
;  SOFTWARE: PatentIn version 3.0
; SEQ ID NO 42
;   LENGTH: 193
;   TYPE: PRT
;   ORGANISM: Artificial
;   FEATURE:
;   OTHER INFORMATION: synthetic sequence
US-10-621-693-42

  Query Match             99.3%;  Score 675;  DB 4;  Length 193;
  Best Local Similarity   99.3%;  Pred. No. 1.6e-63;
  Matches  133;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIP 60
              ||||||||||||||||||||||||||||||||||||||||||||||||| ||||||
Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIP 60

Qy         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120

Qy        121 GIQTLMGRLEDGSP 134
              ||||||||||||||
Db        121 GIQTLMGRLEDGSP 134


RESULT 10
US-10-621-693-72
; Sequence 72, Application US/10621693
; Publication No. US20040059093A1
; GENERAL INFORMATION:
;  APPLICANT: Gentide Biopharmaceuticals, Inc.
;  APPLICANT:  Bussell, Stuart
;  TITLE OF INVENTION: METHODS TO CONSTRUCT MULTIMERIC DNA AND POLYMERIC PROTEIN SEQUENC
;  TITLE OF INVENTION:  DIRECT FUSIONS OR WITH LINKERS
;  FILE REFERENCE: GNT-00101.P.1-US
;  CURRENT APPLICATION NUMBER: US/10/621,693
;  CURRENT FILING DATE:  2003-07-16
;  PRIOR APPLICATION NUMBER: US 60/396,466
;  PRIOR FILING DATE: 2002-07-16
;  NUMBER OF SEQ ID NOS: 86
;  SOFTWARE: PatentIn version 3.0
; SEQ ID NO 72
;   LENGTH: 206
;   TYPE: PRT
;   ORGANISM: Artificial
;   FEATURE:
;   OTHER INFORMATION: synthetic sequence
US-10-621-693-72

  Query Match             99.3%;  Score 675;  DB 4;  Length 206;
  Best Local Similarity   99.3%;  Pred. No. 1.7e-63;
  Matches  133;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIP 60
              ||||||||||||||||||||||||||||||||||||||||||||||||| ||||||
Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIP 60

Qy         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120

Qy        121 GIQTLMGRLEDGSP 134
              ||||||||||||||
Db        121 GIQTLMGRLEDGSP 134


RESULT 11
US-10-908-400A-95
; Sequence 95, Application US/10908400A
; Publication No. US20050203010A1
; GENERAL INFORMATION:
;  APPLICANT: ATGen Co., LTD.
;  APPLICANT:  KIM, Jong-Sun
;  TITLE OF INVENTION: Novel peptides conferring environmental stress resistance and
;  TITLE OF INVENTION:  fusion proteins including said peptides
;  FILE REFERENCE: 59520-03CIP
;  CURRENT APPLICATION NUMBER: US/10/908,400A
;  CURRENT FILING DATE:  2005-05-10
;  PRIOR APPLICATION NUMBER: US 10/713,851
;  PRIOR FILING DATE: 2003-11-14
;  PRIOR APPLICATION NUMBER: KR 10-2004-33123
;  PRIOR FILING DATE: 2004-05-11
;  PRIOR APPLICATION NUMBER: KR 10-2005-36882
;  PRIOR FILING DATE: 2005-05-02
;  NUMBER OF SEQ ID NOS: 105
;  SOFTWARE: KopatentIn 1.71
; SEQ ID NO 95
;   LENGTH: 213
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: hGH-Syn119-135 fusion protein
US-10-908-400A-95

  Query Match             99.3%;  Score 675;  DB 5;  Length 213;
  Best Local Similarity   99.3%;  Pred. No. 1.8e-63;
  Matches  133;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIP 60
              ||||||||||||||||||||||||||||||||||||||||||||||||| ||||||
Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIP 60

Qy         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120
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Db         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120

Qy        121 GIQTLMGRLEDGSP 134
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Db        121 GIQTLMGRLEDGSP 134


RESULT 12
US-10-908-400A-91
; Sequence 91, Application US/10908400A
; Publication No. US20050203010A1
; GENERAL INFORMATION:
;  APPLICANT: ATGen Co., LTD.
;  APPLICANT:  KIM, Jong-Sun
;  TITLE OF INVENTION: Novel peptides conferring environmental stress resistance and
;  TITLE OF INVENTION:  fusion proteins including said peptides
;  FILE REFERENCE: 59520-03CIP
;  CURRENT APPLICATION NUMBER: US/10/908,400A
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;  CURRENT FILING DATE:  2005-05-10
;  PRIOR APPLICATION NUMBER: US 10/713,851
;  PRIOR FILING DATE: 2003-11-14
;  PRIOR APPLICATION NUMBER: KR 10-2004-33123
;  PRIOR FILING DATE: 2004-05-11
;  PRIOR APPLICATION NUMBER: KR 10-2005-36882
;  PRIOR FILING DATE: 2005-05-02
;  NUMBER OF SEQ ID NOS: 105
;  SOFTWARE: KopatentIn 1.71
; SEQ ID NO 91
;   LENGTH: 216
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Synthetic Construct for hGH-Syn119-140 fusion protein
US-10-908-400A-91

  Query Match             99.3%;  Score 675;  DB 5;  Length 216;
  Best Local Similarity   99.3%;  Pred. No. 1.9e-63;
  Matches  133;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIP 60
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Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIP 60

Qy         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120
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Db         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120

Qy        121 GIQTLMGRLEDGSP 134
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Db        121 GIQTLMGRLEDGSP 134


RESULT 13
US-10-908-400A-96
; Sequence 96, Application US/10908400A
; Publication No. US20050203010A1
; GENERAL INFORMATION:
;  APPLICANT: ATGen Co., LTD.
;  APPLICANT:  KIM, Jong-Sun
;  TITLE OF INVENTION: Novel peptides conferring environmental stress resistance and
;  TITLE OF INVENTION:  fusion proteins including said peptides
;  FILE REFERENCE: 59520-03CIP
;  CURRENT APPLICATION NUMBER: US/10/908,400A
;  CURRENT FILING DATE:  2005-05-10
;  PRIOR APPLICATION NUMBER: US 10/713,851
;  PRIOR FILING DATE: 2003-11-14
;  PRIOR APPLICATION NUMBER: KR 10-2004-33123
;  PRIOR FILING DATE: 2004-05-11
;  PRIOR APPLICATION NUMBER: KR 10-2005-36882
;  PRIOR FILING DATE: 2005-05-02
;  NUMBER OF SEQ ID NOS: 105
;  SOFTWARE: KopatentIn 1.71
; SEQ ID NO 96
;   LENGTH: 216
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: hGH-SynE123A fusion protein
US-10-908-400A-96

  Query Match             99.3%;  Score 675;  DB 5;  Length 216;
  Best Local Similarity   99.3%;  Pred. No. 1.9e-63;
  Matches  133;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIP 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||| ||||||
Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIP 60

Qy         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120
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Db         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120

Qy        121 GIQTLMGRLEDGSP 134
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Db        121 GIQTLMGRLEDGSP 134


RESULT 14
US-10-908-400A-97
; Sequence 97, Application US/10908400A
; Publication No. US20050203010A1
; GENERAL INFORMATION:
;  APPLICANT: ATGen Co., LTD.
;  APPLICANT:  KIM, Jong-Sun
;  TITLE OF INVENTION: Novel peptides conferring environmental stress resistance and
;  TITLE OF INVENTION:  fusion proteins including said peptides
;  FILE REFERENCE: 59520-03CIP
;  CURRENT APPLICATION NUMBER: US/10/908,400A
;  CURRENT FILING DATE:  2005-05-10
;  PRIOR APPLICATION NUMBER: US 10/713,851
;  PRIOR FILING DATE: 2003-11-14
;  PRIOR APPLICATION NUMBER: KR 10-2004-33123
;  PRIOR FILING DATE: 2004-05-11
;  PRIOR APPLICATION NUMBER: KR 10-2005-36882
;  PRIOR FILING DATE: 2005-05-02
;  NUMBER OF SEQ ID NOS: 105
;  SOFTWARE: KopatentIn 1.71
; SEQ ID NO 97
;   LENGTH: 216
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: hGH-SynY133A fusion protein
US-10-908-400A-97

  Query Match             99.3%;  Score 675;  DB 5;  Length 216;
  Best Local Similarity   99.3%;  Pred. No. 1.9e-63;
  Matches  133;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIP 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||| ||||||
Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIP 60

Qy         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120

Qy        121 GIQTLMGRLEDGSP 134
              ||||||||||||||
Db        121 GIQTLMGRLEDGSP 134


RESULT 15
US-10-908-400A-98
; Sequence 98, Application US/10908400A
; Publication No. US20050203010A1
; GENERAL INFORMATION:
;  APPLICANT: ATGen Co., LTD.
;  APPLICANT:  KIM, Jong-Sun
;  TITLE OF INVENTION: Novel peptides conferring environmental stress resistance and
;  TITLE OF INVENTION:  fusion proteins including said peptides
;  FILE REFERENCE: 59520-03CIP
;  CURRENT APPLICATION NUMBER: US/10/908,400A
;  CURRENT FILING DATE:  2005-05-10
;  PRIOR APPLICATION NUMBER: US 10/713,851
;  PRIOR FILING DATE: 2003-11-14
;  PRIOR APPLICATION NUMBER: KR 10-2004-33123
;  PRIOR FILING DATE: 2004-05-11
;  PRIOR APPLICATION NUMBER: KR 10-2005-36882
;  PRIOR FILING DATE: 2005-05-02
;  NUMBER OF SEQ ID NOS: 105
;  SOFTWARE: KopatentIn 1.71
; SEQ ID NO 98
;   LENGTH: 216
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; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: hGH-SynA124E fusion protein
US-10-908-400A-98

Query Match 99.3%; Score 675; DB 5; Length 216;
Best Local Similarity 99.3%; Pred. No. 1.9e-63;
Matches 133; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

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Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIP 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||| ||||||
Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIP 60

Qy         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120

Qy        121 GIQTLMGRLEDGSP 134
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Db        121 GIQTLMGRLEDGSP 134
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Search completed: May 11, 2006, 12:06:03
Job time : 166 secs

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OM protein - protein search, using sw model

Run on: May 11, 2006, 12:03:24 ; Search time 28 Seconds
(without alignments)
224.684 Million cell updates/sec

Title: US-10-714-067-24
Perfect score: 680
Sequence: 1 MFPTIPLSRLFDNAMLRAHR.....LKDLEEGIQTLMGRLEDGSP 134

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 250354 seqs, 46948837 residues

Total number of hits satisfying chosen parameters: 250354

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Published_Applications_AA_New:*
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12: /SIDS5/ptodata/1/pubpaa/US60_NEW_PUB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	675	99.3	192	11	US-11-033-365-159	Sequence 159, App
2	675	99.3	192	11	US-11-033-365-197	Sequence 197, App
3	675	99.3	192	11	US-11-033-365-198	Sequence 198, App
4	675	99.3	192	11	US-11-033-365-200	Sequence 200, App
5	670	98.5	191	9	US-10-519-390-6	Sequence 6, Appli
6	670	98.5	191	10	US-11-267-871-1	Sequence 1, Appli
7	670	98.5	191	10	US-11-267-871-162	Sequence 162, App
8	670	98.5	191	10	US-11-267-871-163	Sequence 163, App
9	670	98.5	191	10	US-11-267-871-164	Sequence 164, App
10	670	98.5	191	10	US-11-267-871-165	Sequence 165, App
11	670	98.5	191	10	US-11-267-871-166	Sequence 166, App
12	670	98.5	191	10	US-11-267-871-167	Sequence 167, App
13	670	98.5	191	10	US-11-267-871-168	Sequence 168, App
14	670	98.5	191	10	US-11-267-871-169	Sequence 169, App
15	670	98.5	191	10	US-11-267-871-170	Sequence 170, App
16	670	98.5	191	10	US-11-267-871-171	Sequence 171, App
17	670	98.5	191	10	US-11-267-871-172	Sequence 172, App
18	670	98.5	191	10	US-11-267-871-173	Sequence 173, App
19	670	98.5	191	10	US-11-267-871-174	Sequence 174, App
20	670	98.5	191	10	US-11-267-871-175	Sequence 175, App
21	670	98.5	191	10	US-11-267-871-176	Sequence 176, App
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25	670	98.5	191	10	US-11-267-871-180	Sequence 180, App
26	670	98.5	191	10	US-11-267-871-181	Sequence 181, App
27	670	98.5	191	10	US-11-267-871-182	Sequence 182, App
28	670	98.5	191	10	US-11-267-871-183	Sequence 183, App
29	670	98.5	191	10	US-11-267-871-184	Sequence 184, App
30	670	98.5	191	10	US-11-267-871-185	Sequence 185, App
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38	670	98.5	191	10	US-11-267-871-193	Sequence 193, App
39	670	98.5	191	10	US-11-267-871-194	Sequence 194, App
40	670	98.5	191	10	US-11-267-871-195	Sequence 195, App
41	670	98.5	191	10	US-11-267-871-196	Sequence 196, App
42	670	98.5	191	10	US-11-267-871-197	Sequence 197, App
43	670	98.5	191	10	US-11-267-871-198	Sequence 198, App
44	670	98.5	191	10	US-11-267-871-199	Sequence 199, App
45	670	98.5	191	10	US-11-267-871-200	Sequence 200, App

ALIGNMENTS

RESULT 1
US-11-033-365-159
; Sequence 159, Application US/11033365
; Publication No. US20050250678A1
; GENERAL INFORMATION:
; APPLICANT: Neose Technologies Inc.
; APPLICANT: DeFrees, Shawn
; APPLICANT: Zopf, David
; APPLICANT: Wang, ZhiGuang
; APPLICANT: Clausen, Henrik
; TITLE OF INVENTION: O-Linked Glycosylation of peptides
; FILE REFERENCE: 040853-01-5138
; CURRENT APPLICATION NUMBER: US/11/033,365
; CURRENT FILING DATE: 2005-01-10
; PRIOR APPLICATION NUMBER: 60/535,284
; PRIOR FILING DATE: 2004-01-08
; PRIOR APPLICATION NUMBER: 60/544,411
; PRIOR FILING DATE: 2004-02-12
; PRIOR APPLICATION NUMBER: 60/546,631
; PRIOR FILING DATE: 2004-02-20
; PRIOR APPLICATION NUMBER: 60/555,813
; PRIOR FILING DATE: 2004-03-23
; PRIOR APPLICATION NUMBER: 60/570,891
; PRIOR FILING DATE: 2004-05-12
; NUMBER OF SEQ ID NOS: 213
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 159
; LENGTH: 192
; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-033-365-159

Query Match 99.3%; Score 675; DB 11; Length 192;
Best Local Similarity 99.3%; Pred. No. 2.8e-63;
Matches 133; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

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Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIP 60
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Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIP 60

Qy         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120
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Qy        121 GIQTLMGRLEDGSP 134
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Db        121 GIQTLMGRLEDGSP 134


RESULT 2
US-11-033-365-197
; Sequence 197, Application US/11033365
; Publication No. US20050250678A1
; GENERAL INFORMATION:
;  APPLICANT: Neose Technologies Inc.
;  APPLICANT:  DeFrees, Shawn
;  APPLICANT:  Zopf, David
;  APPLICANT:  Wang, ZhiGuang
;  APPLICANT:  Clausen, Henrik
;  TITLE OF INVENTION: O-Linked Glycosylation of peptides
;  FILE REFERENCE: 040853-01-5138
;  CURRENT APPLICATION NUMBER: US/11/033,365
;  CURRENT FILING DATE:  2005-01-10
;  PRIOR APPLICATION NUMBER: 60/535,284
;  PRIOR FILING DATE: 2004-01-08
;  PRIOR APPLICATION NUMBER: 60/544,411
;  PRIOR FILING DATE: 2004-02-12
;  PRIOR APPLICATION NUMBER: 60/546,631
;  PRIOR FILING DATE: 2004-02-20
;  PRIOR APPLICATION NUMBER: 60/555,813
;  PRIOR FILING DATE: 2004-03-23
;  PRIOR APPLICATION NUMBER: 60/570,891
;  PRIOR FILING DATE: 2004-05-12
;  NUMBER OF SEQ ID NOS: 213
;  SOFTWARE: PatentIn version 3.2
; SEQ ID NO 197
;   LENGTH: 192
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-033-365-197

  Query Match             99.3%;  Score 675;  DB 11;  Length 192;
  Best Local Similarity   99.3%;  Pred. No. 2.8e-63;
  Matches  133;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIP 60
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Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIP 60

Qy         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120

Qy        121 GIQTLMGRLEDGSP 134
              ||||||||||||||
Db        121 GIQTLMGRLEDGSP 134


RESULT 3
US-11-033-365-198
; Sequence 198, Application US/11033365
; Publication No. US20050250678A1
; GENERAL INFORMATION:
;  APPLICANT: Neose Technologies Inc.
;  APPLICANT:  DeFrees, Shawn
;  APPLICANT:  Zopf, David
;  APPLICANT:  Wang, ZhiGuang
;  APPLICANT:  Clausen, Henrik
;  TITLE OF INVENTION: O-Linked Glycosylation of peptides
;  FILE REFERENCE: 040853-01-5138
;  CURRENT APPLICATION NUMBER: US/11/033,365
;  CURRENT FILING DATE:  2005-01-10
;  PRIOR APPLICATION NUMBER: 60/535,284
;  PRIOR FILING DATE: 2004-01-08
;  PRIOR APPLICATION NUMBER: 60/544,411
;  PRIOR FILING DATE: 2004-02-12
;  PRIOR APPLICATION NUMBER: 60/546,631
;  PRIOR FILING DATE: 2004-02-20
;  PRIOR APPLICATION NUMBER: 60/555,813
;  PRIOR FILING DATE: 2004-03-23
;  PRIOR APPLICATION NUMBER: 60/570,891
;  PRIOR FILING DATE: 2004-05-12
;  NUMBER OF SEQ ID NOS: 213
;  SOFTWARE: PatentIn version 3.2
; SEQ ID NO 198
;   LENGTH: 192
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-033-365-198

  Query Match             99.3%;  Score 675;  DB 11;  Length 192;
  Best Local Similarity   99.3%;  Pred. No. 2.8e-63;
  Matches  133;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIP 60
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Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIP 60

Qy         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 TPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEE 120

Qy        121 GIQTLMGRLEDGSP 134
              ||||||||||||||
Db        121 GIQTLMGRLEDGSP 134


RESULT 4
US-11-033-365-200
; Sequence 200, Application US/11033365
; Publication No. US20050250678A1
; GENERAL INFORMATION:
;  APPLICANT: Neose Technologies Inc.
;  APPLICANT:  DeFrees, Shawn
;  APPLICANT:  Zopf, David
;  APPLICANT:  Wang, ZhiGuang
;  APPLICANT:  Clausen, Henrik
;  TITLE OF INVENTION: O-Linked Glycosylation of peptides
;  FILE REFERENCE: 040853-01-5138
;  CURRENT APPLICATION NUMBER: US/11/033,365
;  CURRENT FILING DATE:  2005-01-10
;  PRIOR APPLICATION NUMBER: 60/535,284
;  PRIOR FILING DATE: 2004-01-08
;  PRIOR APPLICATION NUMBER: 60/544,411
;  PRIOR FILING DATE: 2004-02-12
;  PRIOR APPLICATION NUMBER: 60/546,631
;  PRIOR FILING DATE: 2004-02-20
;  PRIOR APPLICATION NUMBER: 60/555,813
;  PRIOR FILING DATE: 2004-03-23
;  PRIOR APPLICATION NUMBER: 60/570,891
;  PRIOR FILING DATE: 2004-05-12
;  NUMBER OF SEQ ID NOS: 213
;  SOFTWARE: PatentIn version 3.2
; SEQ ID NO 200
;   LENGTH: 192
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-11-033-365-200

  Query Match             99.3%;  Score 675;  DB 11;  Length 192;
  Best Local Similarity   99.3%;  Pred. No. 2.8e-63;
  Matches  133;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIP 60
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Db          1 MFPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIP 60

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Qy        121 GIQTLMGRLEDGSP 134
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Db        121 GIQTLMGRLEDGSP 134


RESULT 5
US-10-519-390-6
; Sequence 6, Application US/10519390
; Publication No. US20060008872A1
; GENERAL INFORMATION:
;  APPLICANT: MEDEXGEN Inc.
;  APPLICANT:  CHUNG, Yong-Hoon
;  APPLICANT:  LEE, Hak-sup
;  APPLICANT:  YI, Ki-Wan
;  APPLICANT:  KIM, Jae-Youn
;  APPLICANT:  HEO, Youn-Hwa
;  TITLE OF INVENTION: A method of improving efficacy of biological response-modifying
;  TITLE OF INVENTION:  proteins and the example muteins
;  FILE REFERENCE:
;  CURRENT APPLICATION NUMBER: US/10/519,390
;  CURRENT FILING DATE:  2004-12-23
;  PRIOR APPLICATION NUMBER: KR10-2003-0051846
;  PRIOR FILING DATE: 2003-07-26
;  NUMBER OF SEQ ID NOS: 65
;  SOFTWARE: KopatentIn 1.71
; SEQ ID NO 6
;   LENGTH: 191
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: GH: 1st, 10th, 25th, 31st, 44th, 54th, 92th, 97th, 139th, 146th,
;   OTHER INFORMATION: 166th, 176th or 191st Phe is replaced by Val.
US-10-519-390-6

  Query Match             98.5%;  Score 670;  DB 9;  Length 191;
  Best Local Similarity   99.2%;  Pred. No. 9.3e-63;
  Matches  132;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
              |||||||||||||||||||||||||||||||||||||||||||||||||||||| |||||||
Db          1 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIPT 60

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 120

Qy        122 IQTLMGRLEDGSP 134
              |||||||||||||
Db        121 IQTLMGRLEDGSP 133


RESULT 6
US-11-267-871-1
; Sequence 1, Application US/11267871
; Publication No. US20060094655A1
; GENERAL INFORMATION:
;  APPLICANT: Guyon, Thierry
;  APPLICANT:  Borrelly, Gilles
;  APPLICANT:  Drittanti, Lila
;  APPLICANT:  Vega, Manuel
;  TITLE OF INVENTION: MODIFIED GROWTH HORMONES
;  FILE REFERENCE: 17109-015001/925
;  CURRENT APPLICATION NUMBER: US/11/267,871
;  CURRENT FILING DATE:  2005-11-03
;  PRIOR APPLICATION NUMBER: 60/706,697
;  PRIOR FILING DATE: 2005-08-08
;  PRIOR APPLICATION NUMBER: 60/625,652
;  PRIOR FILING DATE: 2004-11-04
;  NUMBER OF SEQ ID NOS: 719
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1
;   LENGTH: 191
;   TYPE: PRT
;   ORGANISM: Homo Sapiens
;   FEATURE:
;   OTHER INFORMATION: Wild type human Growth Hormone
US-11-267-871-1

  Query Match             98.5%;  Score 670;  DB 10;  Length 191;
  Best Local Similarity   99.2%;  Pred. No. 9.3e-63;
  Matches  132;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
              |||||||||||||||||||||||||||||||||||||||||||||||||||||| |||||||
Db          1 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIPT 60

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 120

Qy        122 IQTLMGRLEDGSP 134
              |||||||||||||
Db        121 IQTLMGRLEDGSP 133


RESULT 7
US-11-267-871-162
; Sequence 162, Application US/11267871
; Publication No. US20060094655A1
; GENERAL INFORMATION:
;  APPLICANT: Guyon, Thierry
;  APPLICANT:  Borrelly, Gilles
;  APPLICANT:  Drittanti, Lila
;  APPLICANT:  Vega, Manuel
;  TITLE OF INVENTION: MODIFIED GROWTH HORMONES
;  FILE REFERENCE: 17109-015001/925
;  CURRENT APPLICATION NUMBER: US/11/267,871
;  CURRENT FILING DATE:  2005-11-03
;  PRIOR APPLICATION NUMBER: 60/706,697
;  PRIOR FILING DATE: 2005-08-08
;  PRIOR APPLICATION NUMBER: 60/625,652
;  PRIOR FILING DATE: 2004-11-04
;  NUMBER OF SEQ ID NOS: 719
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 162
;   LENGTH: 191
;   TYPE: PRT
;   ORGANISM: Homo Sapiens
US-11-267-871-162

  Query Match             98.5%;  Score 670;  DB 10;  Length 191;
  Best Local Similarity   99.2%;  Pred. No. 9.3e-63;
  Matches  132;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
              |||||||||||||||||||||||||||||||||||||||||||||||||||||| |||||||
Db          1 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIPT 60

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 120

Qy        122 IQTLMGRLEDGSP 134
              |||||||||||||
Db        121 IQTLMGRLEDGSP 133


RESULT 8
US-11-267-871-163
; Sequence 163, Application US/11267871
; Publication No. US20060094655A1
; GENERAL INFORMATION:
;  APPLICANT: Guyon, Thierry
;  APPLICANT:  Borrelly, Gilles
;  APPLICANT:  Drittanti, Lila
```

```
;  APPLICANT:  Vega, Manuel
;  TITLE OF INVENTION: MODIFIED GROWTH HORMONES
;  FILE REFERENCE: 17109-015001/925
;  CURRENT APPLICATION NUMBER: US/11/267,871
;  CURRENT FILING DATE:  2005-11-03
;  PRIOR APPLICATION NUMBER: 60/706,697
;  PRIOR FILING DATE: 2005-08-08
;  PRIOR APPLICATION NUMBER: 60/625,652
;  PRIOR FILING DATE: 2004-11-04
;  NUMBER OF SEQ ID NOS: 719
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 163
;   LENGTH: 191
;   TYPE: PRT
;   ORGANISM: Homo Sapiens
US-11-267-871-163

  Query Match             98.5%;  Score 670;  DB 10;  Length 191;
  Best Local Similarity   99.2%;  Pred. No. 9.3e-63;
  Matches  132;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||| |||||||
Db          1 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIPT 60

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 120

Qy        122 IQTLMGRLEDGSP 134
              |||||||||||||
Db        121 IQTLMGRLEDGSP 133


RESULT 9
US-11-267-871-164
; Sequence 164, Application US/11267871
; Publication No. US20060094655A1
; GENERAL INFORMATION:
;  APPLICANT: Guyon, Thierry
;  APPLICANT:  Borrelly, Gilles
;  APPLICANT:  Drittanti, Lila
;  APPLICANT:  Vega, Manuel
;  TITLE OF INVENTION: MODIFIED GROWTH HORMONES
;  FILE REFERENCE: 17109-015001/925
;  CURRENT APPLICATION NUMBER: US/11/267,871
;  CURRENT FILING DATE:  2005-11-03
;  PRIOR APPLICATION NUMBER: 60/706,697
;  PRIOR FILING DATE: 2005-08-08
;  PRIOR APPLICATION NUMBER: 60/625,652
;  PRIOR FILING DATE: 2004-11-04
;  NUMBER OF SEQ ID NOS: 719
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 164
;   LENGTH: 191
;   TYPE: PRT
;   ORGANISM: Homo Sapiens
US-11-267-871-164

  Query Match             98.5%;  Score 670;  DB 10;  Length 191;
  Best Local Similarity   99.2%;  Pred. No. 9.3e-63;
  Matches  132;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||| |||||||
Db          1 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIPT 60

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 120

Qy        122 IQTLMGRLEDGSP 134
              |||||||||||||
Db        121 IQTLMGRLEDGSP 133


RESULT 10
US-11-267-871-165
; Sequence 165, Application US/11267871
; Publication No. US20060094655A1
; GENERAL INFORMATION:
;  APPLICANT: Guyon, Thierry
;  APPLICANT:  Borrelly, Gilles
;  APPLICANT:  Drittanti, Lila
;  APPLICANT:  Vega, Manuel
;  TITLE OF INVENTION: MODIFIED GROWTH HORMONES
;  FILE REFERENCE: 17109-015001/925
;  CURRENT APPLICATION NUMBER: US/11/267,871
;  CURRENT FILING DATE:  2005-11-03
;  PRIOR APPLICATION NUMBER: 60/706,697
;  PRIOR FILING DATE: 2005-08-08
;  PRIOR APPLICATION NUMBER: 60/625,652
;  PRIOR FILING DATE: 2004-11-04
;  NUMBER OF SEQ ID NOS: 719
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 165
;   LENGTH: 191
;   TYPE: PRT
;   ORGANISM: Homo Sapiens
US-11-267-871-165

  Query Match             98.5%;  Score 670;  DB 10;  Length 191;
  Best Local Similarity   99.2%;  Pred. No. 9.3e-63;
  Matches  132;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||| |||||||
Db          1 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIPT 60

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 120

Qy        122 IQTLMGRLEDGSP 134
              |||||||||||||
Db        121 IQTLMGRLEDGSP 133


RESULT 11
US-11-267-871-166
; Sequence 166, Application US/11267871
; Publication No. US20060094655A1
; GENERAL INFORMATION:
;  APPLICANT: Guyon, Thierry
;  APPLICANT:  Borrelly, Gilles
;  APPLICANT:  Drittanti, Lila
;  APPLICANT:  Vega, Manuel
;  TITLE OF INVENTION: MODIFIED GROWTH HORMONES
;  FILE REFERENCE: 17109-015001/925
;  CURRENT APPLICATION NUMBER: US/11/267,871
;  CURRENT FILING DATE:  2005-11-03
;  PRIOR APPLICATION NUMBER: 60/706,697
;  PRIOR FILING DATE: 2005-08-08
;  PRIOR APPLICATION NUMBER: 60/625,652
;  PRIOR FILING DATE: 2004-11-04
;  NUMBER OF SEQ ID NOS: 719
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 166
;   LENGTH: 191
;   TYPE: PRT
;   ORGANISM: Homo Sapiens
US-11-267-871-166

  Query Match             98.5%;  Score 670;  DB 10;  Length 191;
  Best Local Similarity   99.2%;  Pred. No. 9.3e-63;
  Matches  132;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;
```

```
Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||| |||||||
Db          1 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIPT 60

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 120

Qy        122 IQTLMGRLEDGSP 134
              |||||||||||||
Db        121 IQTLMGRLEDGSP 133


RESULT 12
US-11-267-871-167
; Sequence 167, Application US/11267871
; Publication No. US20060094655A1
; GENERAL INFORMATION:
;  APPLICANT: Guyon, Thierry
;  APPLICANT:  Borrelly, Gilles
;  APPLICANT:  Drittanti, Lila
;  APPLICANT:  Vega, Manuel
;  TITLE OF INVENTION: MODIFIED GROWTH HORMONES
;  FILE REFERENCE: 17109-015001/925
;  CURRENT APPLICATION NUMBER: US/11/267,871
;  CURRENT FILING DATE:  2005-11-03
;  PRIOR APPLICATION NUMBER: 60/706,697
;  PRIOR FILING DATE: 2005-08-08
;  PRIOR APPLICATION NUMBER: 60/625,652
;  PRIOR FILING DATE: 2004-11-04
;  NUMBER OF SEQ ID NOS: 719
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 167
;   LENGTH: 191
;   TYPE: PRT
;   ORGANISM: Homo Sapiens
US-11-267-871-167

  Query Match             98.5%;  Score 670;  DB 10;  Length 191;
  Best Local Similarity   99.2%;  Pred. No. 9.3e-63;
  Matches  132;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||| |||||||
Db          1 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIPT 60

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 120

Qy        122 IQTLMGRLEDGSP 134
              |||||||||||||
Db        121 IQTLMGRLEDGSP 133


RESULT 13
US-11-267-871-168
; Sequence 168, Application US/11267871
; Publication No. US20060094655A1
; GENERAL INFORMATION:
;  APPLICANT: Guyon, Thierry
;  APPLICANT:  Borrelly, Gilles
;  APPLICANT:  Drittanti, Lila
;  APPLICANT:  Vega, Manuel
;  TITLE OF INVENTION: MODIFIED GROWTH HORMONES
;  FILE REFERENCE: 17109-015001/925
;  CURRENT APPLICATION NUMBER: US/11/267,871
;  CURRENT FILING DATE:  2005-11-03
;  PRIOR APPLICATION NUMBER: 60/706,697
;  PRIOR FILING DATE: 2005-08-08
;  PRIOR APPLICATION NUMBER: 60/625,652
;  PRIOR FILING DATE: 2004-11-04
;  NUMBER OF SEQ ID NOS: 719
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 168
;   LENGTH: 191
;   TYPE: PRT
;   ORGANISM: Homo Sapiens
US-11-267-871-168

  Query Match             98.5%;  Score 670;  DB 10;  Length 191;
  Best Local Similarity   99.2%;  Pred. No. 9.3e-63;
  Matches  132;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||| |||||||
Db          1 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIPT 60

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 120

Qy        122 IQTLMGRLEDGSP 134
              |||||||||||||
Db        121 IQTLMGRLEDGSP 133


RESULT 14
US-11-267-871-169
; Sequence 169, Application US/11267871
; Publication No. US20060094655A1
; GENERAL INFORMATION:
;  APPLICANT: Guyon, Thierry
;  APPLICANT:  Borrelly, Gilles
;  APPLICANT:  Drittanti, Lila
;  APPLICANT:  Vega, Manuel
;  TITLE OF INVENTION: MODIFIED GROWTH HORMONES
;  FILE REFERENCE: 17109-015001/925
;  CURRENT APPLICATION NUMBER: US/11/267,871
;  CURRENT FILING DATE:  2005-11-03
;  PRIOR APPLICATION NUMBER: 60/706,697
;  PRIOR FILING DATE: 2005-08-08
;  PRIOR APPLICATION NUMBER: 60/625,652
;  PRIOR FILING DATE: 2004-11-04
;  NUMBER OF SEQ ID NOS: 719
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 169
;   LENGTH: 191
;   TYPE: PRT
;   ORGANISM: Homo Sapiens
US-11-267-871-169

  Query Match             98.5%;  Score 670;  DB 10;  Length 191;
  Best Local Similarity   99.2%;  Pred. No. 9.3e-63;
  Matches  132;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||| |||||||
Db          1 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIPT 60

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 120

Qy        122 IQTLMGRLEDGSP 134
              |||||||||||||
Db        121 IQTLMGRLEDGSP 133


RESULT 15
US-11-267-871-170
; Sequence 170, Application US/11267871
; Publication No. US20060094655A1
; GENERAL INFORMATION:
;  APPLICANT: Guyon, Thierry
```

; APPLICANT: Borrelly, Gilles
; APPLICANT: Drittanti, Lila
; APPLICANT: Vega, Manuel
; TITLE OF INVENTION: MODIFIED GROWTH HORMONES
; FILE REFERENCE: 17109-015001/925
; CURRENT APPLICATION NUMBER: US/11/267,871
; CURRENT FILING DATE: 2005-11-03
; PRIOR APPLICATION NUMBER: 60/706,697
; PRIOR FILING DATE: 2005-08-08
; PRIOR APPLICATION NUMBER: 60/625,652
; PRIOR FILING DATE: 2004-11-04
; NUMBER OF SEQ ID NOS: 719
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 170
; LENGTH: 191
; TYPE: PRT
; ORGANISM: Homo Sapiens
US-11-267-871-170

Query Match 98.5%; Score 670; DB 10; Length 191;
Best Local Similarity 99.2%; Pred. No. 9.3e-63;
Matches 132; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

```
Qy          2 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLSFSESIPT 61
              |||||||||||||||||||||||||||||||||||||||||||||||||||| |||||||
Db          1 FPTIPLSRLFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESIPT 60

Qy         62 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 121
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 PSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDLEEG 120

Qy        122 IQTLMGRLEDGSP 134
              |||||||||||||
Db        121 IQTLMGRLEDGSP 133
```

Search completed: May 11, 2006, 12:06:36
Job time : 29 secs